NOTE TO USERS

The map: Buffalo Park, 1926, is not included in this original manuscript.

This reproduction is the best copy available.

UMI®

University of Alberta

Buffalo National Park and the Second Demise of the Plains Bison in Canada, 1909-1940

by

Jennifer Lynn Brower ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment
of the
requirements for the degree of Master of Arts

in

History

Department of History and Classics

Edmonton, Alberta

Fall 2004

Library and
Archives Canada

Published Heritage
Branch

395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque et
Archives Canada

Direction du
Patrimoine de l'édition

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence
ISBN: 0-612-95625-3
Our file Notre référence
ISBN: 0-612-95625-3

The author has granted a non-exclusive license allowing the Library and Archives Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque et Archives Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou aturement reproduits sans son autorisation.

In compliance with the Canadian Privacy Act some supporting forms may have been removed from this thesis.

While these forms may be included in the document page count, their removal does not represent any loss of content from the thesis.

Conformément à la loi canadienne sur la protection de la vie privée, quelques formulaires secondaires ont été enlevés de cette thèse.

Bien que ces formulaires aient inclus dans la pagination, il n'y aura aucun contenu manquant.

Canada

Acknowledgement

I would like to express my gratitude to the many people that were involved during the researching and writing of this thesis. My supervisor, Dr. Gerhard Ens, has taught me a great deal over the past three years. I would like to thank him for his interest in my project, for his guidance, and the many hours he spent helping bring this thesis to its completion. Thank you to my parents and siblings for their interest and for their support while I have undertaken this study. I would also like to express my appreciation to the many other individuals, too numerous to mention, that have provided insight and encouragement. They have also played a great role in the completion of this thesis.

Table of Contents

Chapter 1: Introduction and Historiography 1

Chapter 2: Where the Buffalo Roam: Perceptions of the Neutral Hills Landscape 16

Chapter 3: Nationalistic Fervour, Mythical Sentiments: Wildlife Preservation in Buffalo National Park 41

Chapter 4: "A Well Run Ranch": Domestication and Commercialization of the Plains Bison in Buffalo National Park 65

Chapter 5: Zookeepers and Wildlife Breeders: Other Wildlife in Buffalo National Park and the Crisis of the Range 107

Chapter 6: "Evolving the Arctic Cow": Cross-breeding, Disease, and the Demise of Buffalo National Park 142

Chapter 7: Conclusion 189

Bibliography 200

Appendices 209

List of Tables

Table 1: Purchase Dates and Shipment Locations 58

Table 2: Buffalo Population Census, 1922-1932 93

Table 3: Inventory of Buffalo Slaughtered by Contract and Shipped to Wood Buffalo Park, 1922-1940 101

Table 4: Wildlife Populations in Buffalo National Park, 1922-1932 117

Table 5: Census of Coyotes Killed Under Hound Campaign in Buffalo National Park, 1917-1928 119

Table 6: Sale of Coyote Skins by Park Employees, 1926-1927 121

List of Figures or Illustrations

Figure 1: Perceptions of Buffalo National Park Landscape Based on Records of Dominion Land Surveyors, 1883-1884, 1903 26

Figure 2: A General Map of the Routes in British North America Explored by the Expedition under Captain Palliser during the years 1857, 1858, 1859, 1860 33

Figure 3: Map Showing Unpatented Land in the Vicinity of Buffalo National Park 36

Figure 4: Arrival of the Pablo Bison at Wainwright 55

Figure 5: Buffalo Slaughter 97

Figure 6: Buffalo Roundup for Shipment to Wood Buffalo National Park 105

Figure 7: Hunting Coyotes in Buffalo National Park 121

Figure 8: Park Riders Riding Over Exposed Sand Dunes 132

Figure 9: Cattalo in Buffalo National Park 155

Figure 10: Map Showing Ranges for Northern and Southern Wood Bison Herds 180

List of Maps

Map: *Buffalo Park*, 1926. 210

Chapter 1: Introduction and Historiography

In 1832, the artist George Catlin, while in the area of present-day South Dakota, recorded the following observations:

> It is a melancholy contemplation for one who has travelled as I have, through these realms, and seen this noble animal in all its pride and glory, to contemplate it so rapidly wasting from the world, drawing the irresistible conclusion too, which one must do, that its species is soon to be extinguished....
>
> And what a splendid contemplation too, when one (who has travelled these realms, and can duly appreciate them) imagines them as they *might* in the future be seen (by some great protecting policy of government) preserved in their pristine beauty and wildness, in a *magnificent park*, where the world could see for ages to come....What a beautiful and thrilling specimen for America to preserve and hold up to the view of her refined citizens and the world, in the future ages! A *nation's Park*, containing man and beast, in all the wild and freshness of their nature's beauty.[1]

These words were written in response to Catlin's observations of the wanton destruction of thousands of plains bison[2] on the North American plains. Catlin abhorred the wasteful exploitation of these "noble" beasts at the expense of natives and he cried out for a place where both man and beast could be preserved.[3] Catlin's plea, however, was not initially heeded. The nineteenth century witnessed the near destruction of the plains bison that had at one time existed on the North American Plains numbering near thirty million.[4] In the United States, the systematic onslaught against these animals began around 1830. Historian Sheilagh Oglivie argues that the completion of the railroads in the United States accelerated the destruction of the bison by two decades. By the 1890s, there were no wild plains bison left on the Canadian Prairies and on the Plains in United States they only existed in small pockets.[5]

---

[1] Roderick Nash, ed., *The American Environment: Readings in the History of Conservation* (Massachusetts: Addison-Wesley Publishing Company, 1968), 8-9.

[2] Although the name plains bison is the proper title for the species that once dominated the North American Plains, throughout this thesis the term "buffalo" will also be used to designate this animal. This latter term will also be used because the plains bison were often called "buffalo" by the earliest explorers and the animals continued to be known by this name the entire time Buffalo National Park was in existence.

[3] Nash, 7-9.

[4] Dale Lott believes that the North American Plains could have supported only thirty million buffalo prior to the over-hunting of the species in the latter half of the nineteenth century. For more details of his argument see Dale Lott, *American Bison: A Natural History* (Berkeley: University of California Press, 2002), 69-76.

Although a park as Catlin imagined, preserving both man and beast, never came to fruition, efforts were made to preserve the plains bison. In the United States, Yellowstone National Park was the first park to be established that proposed some type of protection for the species. Yet, initially even this park did not live up to Catlin's expectations. The reason for establishing this park was to protect the natural wonders, most specifically geysers and hot springs, from being exploited or destroyed by prospectors.[6] Protection of the buffalo was not a priority in this park's formative years and poaching proved to be a huge problem.[7] The effort closest to Catlin's dream was undertaken by the Dominion government in 1906. In that year, a deal was negotiated to purchase what was considered the largest and last free-ranging plains bison herd on the continent from a Montana rancher, Michel Pablo. The establishment of Buffalo Park Reserve in 1908, which later became called Buffalo National Park, in Wainwright, Alberta, was for the sole purpose of protecting this buffalo herd.

The purchase of this herd and their relocation to Buffalo National Park was considered one of the greatest wildlife preservation efforts of the early twentieth century.

---

[5] Sheilagh C. Ogilvie, *The Park Buffalo* (Calgary: National and Provincial Parks Association of Canada, 1979), 7-8.

[6] James B. Trefethen, *An American Crusade of Wildlife* (New York: Winchester Press, 1975), 77.

[7] George David Coder, *The National Movement to Preserve the American Buffalo in the United States and Canada Between 1880 and 1920* (Ohio: Ohio State University, 1975), 66-68, 98.

However, this endeavour to protect and propagate the plains bison also has some more dubious motives and was plagued by poor management. Ultimately, three major problems would force the park's closure after only three decades – overpopulation of the buffalo herd, degradation of the range, and the spread of disease. The fact that Buffalo National Park was one of the greatest but also one of the briefest wildlife efforts at this time makes the study of this park vitally important to a comprehensive understanding of the concept of, and philosophy behind, wildlife preservation in the early Canadian national parks system. Given these factors, it is somewhat surprising that so little has been written about this large scale effort. The most extensive treatment is a short sixty-eight page booklet entitled *The Park Buffalo*.[8] The reason for this paucity of scholarship is that Buffalo National Park was a failure. Burdened by an excess of symbolic weight and nationalistic pride, and encompassing too little sense of preservation or wildlife science, this effort was doomed to failure from the start. This thesis will attempt to fill the gap in the literature on early wildlife preservation in Canada.

This examination of Buffalo National Park and the attempt to preserve the plains bison also falls into the realm of environmental history. Born in the 1970s out of the rise in urgency over serious environmental concerns, environmental history has evolved into a new branch in the historical discipline. The one principal goal of environmental history is to analyze the relationship between humans and nature: how human actions have altered the environment over time and how nature is itself an actor in history. Historians can no longer avoid addressing at least the existence of the influence of environment as a factor in historical outcomes or ignore the role of the environment in shaping history.

---

[8] Ogilvie.

Environmental history also acknowledges that historical outcomes are reflective of cultural impacts, whether social, political, and/or economic. The objective of the environmental historian in the study of a particular episode of history is to assess the cultural influences that have influenced human decision and action, and to assess the impact of these decisions and subsequent actions on the environment. In the words of historian William Cronon, environmental history "begins by assuming a dynamic and changing relationship between environment and culture."[9] The culture of a place and period of time is inevitably linked to how humans of a particular period of history interact with their natural world. As Donald Worster argues, ideas in the form of human choices are influenced by numerous philosophies and institutions and their impact on the environment is central to the discipline of environmental history. Research in this field is interdisciplinary and includes study of "esthetics and ethics, myth and folklore, literature and landscape gardening, science and religion – [the study] must go wherever the human mind has grappled with the meaning of nature."[10]

This thesis fits the criteria for environmental history because the culture of the late nineteenth and early twentieth centuries played a huge role in shaping the philosophies behind the concept of preservation in the early Canadian national parks system and influenced the management of Buffalo National Park. As historian Alan MacEachern argues, national parks history needs to be viewed through a cultural looking glass. Everything about a national park, from the decision behind the location to the subsequent management, is based on a variety of "aesthetic, economic, and political reasons."[11] All the decisions, from the purchase of the buffalo herd, and the establishment and location of Buffalo National Park, to the creation of wildlife policy that dictated the management of the buffalo were driven by cultural considerations. Sentiments of myth and nationalism overshadowed preservationist ideals at the purchase. Once in the park, the bison's management was steered by the political atmosphere of the early twentieth century. The pressure of economic strain that the park faced is perhaps most responsible for the execution of poor management decisions, which overrode expert advice and compromised the principles on which the effort was founded. Ultimately, the culture of the early twentieth century played the most important role in dictating how the bison and the park were managed.

---

[9] William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York: Hill and Wang, 1983), 13.

[10] Donald Worster, "Doing Environmental History," in *Consuming Canada: Readings in Environmental History*, eds. Chad Gaffield and Pam Gaffield (Toronto: Copp Clark, 1995), 28.

This thesis deals with how those individuals in the early twentieth-century Canadian national parks system understood the concept of preservation and the impact these perceptions or misperceptions had on the buffalo and their new-found habitat – Buffalo National Park. In doing so, this thesis challenges how previous historiography on the Canadian national parks system has defined and analyzed preservation efforts. My research on Buffalo National Park suggests that this effort could hardly be called preservationist. These findings in turn call into question the preservation mandate of the early national parks system and suggest that the present historiography on wildlife preservation in the early twentieth-century national parks be reassessed.

Given that the stated purpose of Buffalo National Park was the preservation of the plains bison, a firm grasp of how the word "preservation" was understood then and how this meaning has changed is essential. When one thinks of national parks in the twenty-first century, preservation comes to mind as one of the priorities of Parks Canada; with the amendments made to the National Parks Act in 1988, protection of natural resources with a focus on the maintenance of ecological integrity, in theory, is to take priority.[12] These altruistic motives for protecting resources were not always a priority in the national parks system. The 1887 *Rocky Mountains Park Act*, the act that officially created Rocky Mountains Park, now Banff National Park, addressed the general preservation and protection of game, fish and birds.[13] But, not until passing of *The National Parks Act* in 1930 did the national parks mandate officially recognize the importance of preserving land, flora, and fauna (predators excepted) for non-exploitive reasons. The most important change in *The National Parks Act* came in the general purpose of the parks; they were to "be maintained and made use of so as to leave them unimpaired for the enjoyment of future generations."[14]

---

[11] Alan MacEachern, *Natural Selections: National Parks in Atlantic Canada, 1935-1970* (Montreal: McGill-Queens University Press, 2001), 4.

Understanding the evolution in meaning of the word preservation is vital for comprehending how the concept was understood in the early national parks system. Prior to the changes made to the parks system with *The National Parks Act* of 1930, preservation had a very different meaning. The early twentieth-century meaning of preservation can be equated with what would now be defined as conservation – the "planned and efficient use of natural resources to ensure their permanence."[15] While "preservation" and "conservation" are two quite distinct terms today, at the turn of the twentieth century the meaning of preservation was closer to that of conservation and had connotations of utility. The propinquity of these two terms is substantiated by the fact they were often used interchangeably.[16]

---

[12] Kevin McNamee, "From Wild Places to Endangered Spaces: A History of Canada's National Parks," in *Parks and Protected Areas in Canada: Planning and Management*, eds. Philip Dearden and Rick Rollins (Toronto: Oxford University Press, 1993), 40.

[13] Rocky Mountains Park Act, 50-51 Victoria, c. 32. *Acts of the Parliament of the Dominion of Canada, Passed in the Sessions Held in the Fiftieth and Fifty-first Years of the Reign of Her Majesty, Queen Victoria, Being the First Session of the Sixth Parliament* (Ottawa: Printed by Brown Chamberlin, 1887), 120.

[14] The National Parks Act, 20-21 George V. c. 33. *Acts of the Parliament of the Dominion of Canada Passed in the Session Held in the Twentieth and Twenty-first Years of the Reign of His Majesty King George V Being the Fourth Session of the Sixteenth Parliament* (Ottawa: Printed by Frederick Albert Acland, 1930), 272.

In the early national parks system, preservation of resources was driven by motives of utility. The existence of this mandate, which was based on the efficient use of resources, should not be surprising given that the early national parks in Canada were established during the Conservation Movement. Beginning in the late nineteenth century and continuing until the early 1920s the Conservation Movement was prompted by those who had witnessed the near obliteration of natural resources in the United States through exploitive measures. They began calling for efforts to ensure that resources be available for future generations. Samuel Hays, a pre-eminent environmental historian, believes that the Conservation Movement was driven by objectives of wise use and efficiency. In his book *Conservation and the Gospel of Efficiency*, Hays argues that the movement emerged to counteract the wastefulness of resource use created by "unrestrained competition and undirected economic development."[17] The essence of the movement was "rational planning to promote efficient development and use of all natural resources."[18] Early wildlife preservation efforts in the United States have been identified as having a similar aura of utility; wildlife was treated as a resource necessary to preserve in order to ensure the continuance of a way of life – that of sport hunting. James B. Trefethen, in his history of the Boone and Crockett Club, has identified sportsmen as some of the early supporters concerned with the welfare of wildlife. He states the Boone and Crockett Club was formed by big game hunters whose aim was to preserve big game populations that were rapidly being depleted by over hunting.[19] Their concern that wildlife populations be preserved for use as sport had much to do with their involvement in ensuring Yellowstone National Park remain as a refuge for big game.[20] Historian John Reiger also confirms that American sportsmen were interested in preserving wildlife less because they were concerned with safeguarding species and more because they wished to preserve their own recreational livelihood.[21] Historian Thomas Dunlap adds that it was the near annihilation of the plains bison that invigorated American sportsmen to take a stand and make protection of wildlife a public issue.[22]

---

[15] Alan MacEachern, *The Conservation Movement* (Chinook Multimedia Inc., 2000).

[16] MacEachern, *The Conservation Movement*. Gordon Hewitt's book, *The Conservation of the Wildlife of Canada*, is a good example of how the terms preservation and conservation were used synonymously. See, for example, C. Gordon Hewitt, *The Conservation of the Wildlife of Canada* (New York: Charles Scribner's Sons, 1921), 7. It should be noted that the views of nineteenth-century Canadians was more diverse than the preservation/conservation dichotomy described here. George Altmeyer has argued that "nature" had various meanings for Canadians. Nature was viewed as a "Benevolent Mother" that had the power to heal and rejuvenate, a "Limited Storehouse" of treasures, and a "Temple" where one could seek spiritual encounters. George Altmeyer, "Three Ideas of Nature in Canada, 1893-1914," in *Consuming Canada: Readings in Environmental History*, eds. Chad Gaffield and Pam Gaffield (Toronto: Copp Clark, 1995), 131. For the purpose of this thesis, however, which focuses on national parks, the conservation/preservation dichotomy is of primary interest.

---

[17] Samuel P. Hays, *Conservation and the Gospel of Efficiency* (Cambridge: Harvard University Press, 1959), 266.

[18] Hays, 2.

[19] Trefethen, 81.

[20] Trefethen, 84.

[21] John F. Reiger, *American Sportsmen and the Origins of Conservation* (New York: Winchester Press, 1975), 26, 52.

[22] Thomas R. Dunlap, *Saving America's Wildlife* (Princeton: Princeton University Press, 1988), 6, 7.

The Conservation Movement that emerged in Canada was very much influenced by the course of events in the United States. In Ontario and Quebec, concern and action started in the forestry sector, where it was realized that sustainability of the industry hinged on the careful management of the forests.[23] In the late nineteenth century, concern was also rising in these provinces over the depletion of wild game.[24] Saving wildlife for sport, as had been the case in the United States, also occurred in Canada. Tina Loo argues that because of a "market demand for wilderness," provincial governments put in place regulations to protect resources, one of which was wildlife.[25]

Scholars have recognized this same trend of utility and efficiency in the establishment of the Canadian national parks and the management of resources in them. Historian Robert Craig Brown, echoing the argument of Samuel Hays, maintains that the "doctrine of usefulness" was the driving force behind the national parks movement in Canada.[26] Historians Kevin McNamara and Leslie Bella also maintain that a profit motive was the driving force behind the establishment of Canada's earliest national parks rather than a concern to preserve wilderness.[27] Historians have also argued that in the early parks wildlife was treated as a resource and was safeguarded because it proved profitable. Karen Wonders argues protection of animals for sport was one of the primary motivations behind the establishment of Rocky Mountains Park; wildlife in this mountain park acted as an advertisement drawing sportsmen to the park area in order to bring revenue into the parks system.[28] Janet Foster, too, acknowledges the utilitarian motive for protecting wildlife in Rocky Mountains Park, but concentrates on the significance of wildlife as scenery because it was considered a drawing card for tourists.[29]

---

[23] Peter Gillis and Thomas R. Roach, "The Beginnings of a Movement: The Montreal Congress and its Aftermath, 1880-1896," in *Consuming Canada: Readings in Environmental History*, eds. Chad Gaffield and Pam Gaffield (Toronto: Copp Clark, 1995), 131.

[24] MacEachern, *The Conservation Movement*.

[25] Tina Loo, "Making a Modern Wilderness: Conserving Wildlife in Twentieth-Century Canada," *Canadian Historical Review*, 82 (March 2001) 94, 95.

[26] Robert Craig Brown, "The Doctrine of Usefulness: Natural Resource and National Parks Policy in Canada, 1887-1914," in *Canadian Parks in Perspective*, ed. J. G. Nelson (Montreal: Harvest House Ltd.), 49.

[27] McNamee, 18 and Leslie Bella, *Parks for Profit* (Montreal: Harvest House Ltd., 1987), 1-4.

It is clear from this brief survey of the historiography that while a consensus has been reached by historians when defining the essence of these governmental wildlife saving efforts – they were motivated by utility – this consensus is not reflected in the word usage chosen to define the efforts. American scholars, Trefethen, Reiger, and Dunlap, who have focused on the wildlife efforts in the United States, have defined them as conservationist. In contrast, however, historians Foster and Wonders who have focused their research on wildlife protection efforts in the Canadian national parks system have defined them as preservation efforts.[30]

Historian Alan MacEachern has noted this terminological confusion between the terms "preservation" and "conservation" when referring to the period in the early twentieth century, but explains it away by arguing that the two words had the same meaning and were used synonymously.[31] These terms, however, have come to represent quite different ideas. The 1930s *National Parks Act* marked the beginning of the change in meaning of the word "preservation." The emergence of the environmental movement in the 1960s, with its emphasis on protecting the natural environment from abuses resulting from increased industrial development also influenced a change in the meaning of this word. Following World War II, there began a marked concern for the protection of national parks and the natural resources in them. With each decade, greater emphasis has been placed on the mandate set out in the 1930s act, which called for the parks to be left unimpaired for future generations. Protection of the natural environment has become increasingly important as awareness of the pressure on national parks from the abuses of commercial development and recreation has increased. Thus, in the twenty-first century, the term "preservation" has become synonymous with protection of nature based on the ideal of ecological integrity and not utility.[32]

---

[28] Karen Wonders, "A Sportsman's Eden. Part II: A Wilderness Besieged," *Beaver* 79 (December 1999 – January 2000) 30, 31.

[29] Janet Foster, *Working for Wildlife: The Beginning of Preservation in Canada*, 2nd ed. (Toronto: University of Toronto Press, 1998), 55-56.

[30] Foster, 73 and Wonders, 30.

[31] MacEachern, *The Conservation Movement.*

Distinguishing between the two terms is important in the context of this study of Buffalo National Park. This park has only been studied by a handful of historians and all have classified it as preservationist. It is unclear, however, whether scholars are defining preservation by the early twentieth-century meaning or the twenty-first-century meaning. The difficulty arises primarily because historians have argued that the saving of the Pablo bison in Wainwright took a different path than had been set in the early mountain parks and marked a turning point in the understanding of wildlife preservation in the national parks system. Foster states that the acquisition of the Pablo herd by the Canadian government contributed significantly to the evolution of the wildlife preservation policy in the national parks system.[33] George David Coder, in his survey of the preservation of the plains bison in the United States and Canada, argues that the purchase of the Pablo herd by the Canadian government was an achievement in preservation; this purchase, more than any other act, "assured a continuing increase in the buffalo numbers."[34] These historians, however, only focused on the purchase years and their conclusions are based on only a short period of the park's history. They neither consider the cultural influences behind the purchase of the bison nor the subsequent management schemes in Buffalo National Park. Even Sheilagh Oglivie, the one historian that has looked more extensively at the history of Buffalo National Park and its role in protecting and increasing the buffalo in the national parks system, defines the effort as preservationist. While acknowledging the problems the management of the park faced over its existence, she, too, defines the effort as "one of this country's greatest accomplishments made in the cause of preservation."[35]

---

[32] Harvey Locke and Dave Poulton, "Campaigns," *CPAWS Calgary*, n.d. <www.cpawscalgary.org/national-parks/protect-parks.html> (20 January 2003).

[33] Foster, 66-72.

This argument that the purchase and protection of the Pablo bison herd by the Dominion government was represented by a new initiative in wildlife policy – an effort that was moving towards a more altruistic motive for preservation – needs re-examination. Moreover, the related argument that the preservation of the plains bison in the Wainwright park was substantially different from the efforts in the mountain parks because the establishment and management of this park was void of profit motives also is in need of revision. Indeed, the fact that Buffalo National Park was considered to be a divergence from the wildlife conservation that has come to define the wildlife efforts in the early national parks makes research of this park important for gaining a better understanding of the concept of preservation in the early twentieth-century parks system and Canadian views on wildlife. However, while this park was considered to be a preservation effort by both contemporaries and historians, my research on the history of this park, from 1906, when the bison herd was purchased, until 1940, when the park was closed, reveals that this effort was anything but preservationist. The park was not a new beginning in wildlife policy, and concern for the welfare of the species was not a primary objective of the effort. The management of the bison, from the purchase of the Pablo herd to the park's closure, was driven more by culture influences than by any mandate of preservation. These cultural forces, however, were neither primarily utilitarian nor profit-oriented. In this sense, this thesis stands as a departure from the current historiography.

---

[34] Coder, 230.

[35] Oglivie, 36.

This thesis explores the history of Buffalo National Park both chronologically and thematically from the purchase the Pablo herd by the Canadian government to the park's closure in 1940. Chapter 2 considers the role that perceptions of landscape played in the creation of Buffalo National Park. It follows the argument proposed by historian Alfred Runte that areas set aside as national parks were not chosen for their ecological significance, but rather were determined because they were believed worthless for any type of development or resource exploitation.[36] This chapter explores the question of whether the establishment of Buffalo National Park can be considered preservationist when the emphasis was placed on making otherwise worthless land useful rather than paying heed to understanding the plains bison species and how it interacted with its natural environment. Chapter 3 examines how cultural motivations, in the form of myth and nationalism, influenced the "preservationist" effort. This chapter examines these motives at the time of the purchase and assesses whether the opportunity for the government to trumpet Canadian nationalism took precedence over a concern for the integrity of preserving the species. These initial motives would have an important impact on managerial decisions later on.

---

[36] Alfred Runte, *National Parks: The American Experience* (Lincoln: University of Nebraska Press, 1979), 48-49.

Chapters 4 to 6 concentrate on the management of Buffalo National Park using the three major crises that beset the park – overpopulation, range degradation, and disease. Focusing on these crises, the thesis examines whether the management schemes of Buffalo National Park exhibited any preservation ethic. Chapter 4 reviews how the management of the plains bison paralleled that of a large ranching operation; it considers the implications that the slaughtering of the surplus bison and the concentration on producing the most marketable beef products had on ensuring the survival of the species for the future. Chapter 5 outlines the role of the park in protecting other animals, which were considered game species. The management of these other animals paralleled the protection of wildlife in the mountain parks where the policy was conservationist in nature. Yet Buffalo National Park, located in the parkland amidst settlement, could not function as a breeding ground for wildlife populations in the same way as the mountain parks. The implications that this reality had on conserving the game animals and preserving the plains bison is examined in this chapter.

The introduction of the cattalo experiment (crossbreeding buffalo with cattle) to Buffalo National Park, outlined in Chapter 6, is the one aspect of the park that might be considered conservationist in nature. The intention and hope of the Parks Branch and the Department of Agriculture was to create, through hybridization, a breed of range animal that would prove to be beneficial to western and northern Canada. This experiment fits Hays's criteria of the Conservation Movement, which he argues was by and large a scientific movement; it played out in the public arena where the latest scientific knowledge was applied to resource use.[37] If considered independent from Buffalo National Park, this experiment certainly fits the criteria as a conservation initiative. However, while technically an independent enterprise, the experiment was inevitably linked to the plains bison effort when it was moved inside the borders and formally became a part of Buffalo National Park in 1916.

This thesis will examine the events of the failed preservation effort at Buffalo National Park in the context of the larger wildlife preservation movement that was occurring in the Canadian national parks system in the late nineteenth and early twentieth centuries. Not only will this study present new evidence to re-evaluate how the concept of wildlife preservation was understood by contemporaries, it will show how the Dominion government's intention to preserve the plains bison unfolded in Buffalo National Park.

---

[37] Hays, 2.

Chapter 2: Where the Buffalo Roam: Perceptions of the Neutral Hills Landscape

In 1907, Homestead Inspector Joseph Bannerman was sent by the Dominion government to examine an area south of Wainwright, Alberta, for a potential buffalo reserve. He recommended the land for a new park.[38] His examination found the tract of land, "while undesirable as agricultural land, [was] eminently suitable for the purpose intended, being well supplied with water and grazing."[39] Bannerman's conclusions echoed a perception that had been voiced concerning this particular area for the previous two centuries. Europeans came to the Canadian West with preconceived notions of what landscape should entail and were disappointed with the region's potential when it did not meet their standards. Scientific expeditions and Dominion Land Surveyors also found this particular tract of land south of Wainwright to be useless for settlement and agricultural purposes. Because it defied the standards placed upon it, the landscape was deemed waste by all who traversed it. While the land could not be exploited through agricultural means, it was known that this vast wasteland was capable of supporting buffalo; vast herds of the species had sustained native tribes in the area for thousands of years. Thus, in the era of progress and development that straddled the turn of the twentieth century, this "inferior" tract of land south of Wainwright was made useful by restoring it to a more traditional use – a space for buffalo to live – but this time as a reserve for the preservation of the species.

---

[38] National Archives of Canada (hereafter NAC), RG 84, Vol. 981, File BU2[548608], pt. 1, Minister of the Interior to F. T. Griffin, 7 Aug. 1907 and J. A. Bannerman to Frank Oliver 20 Aug. 1907.

[39] NAC, RG 84, Vol. 982, File BU2[548608], pt, 2, Certified Copy of a Report of the Committee of the Privy Council, approved by His Excellency the Governor General on the 7th March 1908.

The decision to set aside the area south of Wainwright for a buffalo reserve was thus based on the belief that this land was unsuitable for agriculture and the knowledge that buffalo had utilized this land for centuries. The planning and management of the park, however, paid little attention to any animal to land ratio necessary for a proper preservation effort of the species, and instead attempted to grow the size of the herd as quickly as possible. The reserve, established in the parkland, was the traditional wintering ground of this migratory species, but typically, bison had only utilized this area seasonally. As an enclosed reserve, however, the land would be subjected to continuous pressure of a rapidly growing bison herd.

From the period of the earliest European exploration, it is clear that the Canadian West[40] was perceived by the explorers, who penetrated the borders of the vast grassland that extended from Manitoba to the Rockies, as land of inferior quality. Henry Kelsey, a Hudson's Bay Company trader, was the first European to record his impressions of the Canadian West. On 20 August 1691, he recorded, "this plain affords Nothing but short Round sticky grass & Buffillo [*sic*]."[41] Kelsey's negative impressions of the Canadian West are a good example of the existence of early-European preconceived notions of landscape. Kelsey was the first of many historical actors whose notions of the Canadian Prairies perpetuated deep-rooted myths and imaginings which have been influential on how the area was viewed thereafter.

---

[40] For the purpose of this chapter, "Canadian West," "Prairies," "Plains," and "North West" will all be used interchangeably to refer to the grassland region that spans the provinces of Alberta, Saskatchewan, and Manitoba.

[41] Henry Kelsey, *The Kelsey Papers* (Regina: Canadian Plains Research Center, 1994), 8.

The recognition of such perceptions has prompted a re-examination of the ideology of 'landscape' in recent years. Landscape has come to be understood more as a cultural construction encompassing much more than the physical elements of the topography, as it has been traditionally defined. In environmental historian Simon Schama's words, landscape is a "work of the mind," constructed by the influence of myths, memories, and meanings.[42] Similarly, geographer Derek Gregory believes the most important consideration is not the physical elements of the space, but rather the reading of landscape – its textualization. The influences of culture, according to Gregory, affect how people use landscape and, in turn, the manner in which they read landscape.[43] R. Douglas Francis confirms that such mental constructions have been applied to the landscape of the Canadian West. He argues, "The history of the West has often been governed as much by what people imagined the region to be as the 'reality' itself."[44] An examination of both the general perceptions of the Canadian West and the specific impressions of the landscape in the Wainwright area, from Kelsey to Palliser to the Dominion Land Surveyors, constitutes a comprehensive historical reading of the landscape in question. The Canadian West as a whole was perceived to be inferior for agricultural uses but good for ranging buffalo. This impression was influential in the establishment of Buffalo National Park.

Whether Kelsey did, in fact, view the Plains negatively has been debated. John Warkentin argues that Kelsey's use of terms to describe the Plains may have been misunderstood. The word "desert" could have meant lonely and "plain" likely a description of both flat terrain and grasslands. "Barren" most likely defined a landscape bare of trees.[45] Kelsey's sombre view of the Prairies is also believed to have been a reflection of his emotional state. The record of his first journey to the Plains was more contemplative and emotional than any of his other journals; he was a lone European travelling in a distant and foreign land.[46] However, Kelsey's true feelings toward the Canadian West are less important than how his observations contributed to a negative view of the Canadian Plains that would persevere until the time of settlement in the Canadian West. B. Kaye and D. W. Moodie argue that this negative view of the agricultural potential of the grassland can be detected a century later. Explorer David Thompson was a surveyor for both the Hudson's Bay Company and North West Company. He ascribed regionality to the Plains with his description of the area from the gulf of Mexico to the northern forests as one homogeneous expanse of pastoral land, useless for agriculture.[47]

---

[42] Simon Schama, *Landscape and Memory* (New York: Alfred A Knopf, Inc., 1995), 6-7.

[43] Derek Gregory, *Geographical Imaginations* (Cambridge: Blackwell, 1994), 144.

[44] R. Douglas Francis, "Changing Images of the West," in *The Prairie West: Historical Readings*, eds. R. Douglas Francis and Howard Palmer (Edmonton: Pica Pica Press, 1985), 629.

Although this negative view persisted, for the most part it was an uninformed view since up until the mid-nineteenth century the geographical attributes of the Canadian West were largely unknown to those living outside the region. However, the

---

[45] John Warkentin, "Steppe, Desert and Empire," in *Prairie Perspectives* 2, eds. A. W. Rasporich and H. C. Klassen (Toronto: Holt, Rinehart, and Winston, 1973), 103.

[46] Kelsey, xiii-xiv. In his 1690 journal Kelsey laments that his journey began "with heavy heart." He wrote:

> Because I was alone & no friend could find
> And Once y^{t} in my travels I was left behind
> Which struck fear & terror into me
> But still I was resolved this same Country for to see
> Kelsey, 1.

[47] B. Kaye and D. W. Moodie, "Geographical Perspectives on the Canadian Plains," in *A Region of the Mind*, ed. Richard Allen (Regina: Canadian Plains Research Centre, 1973), 18.

Palliser and Hind expeditions, prompted by a growing expansionist view of the North West, would redefine and categorize the landscape of the Plains. John Palliser, the son of an elite Irish landowner, was leader of a British expedition. Funded by the Royal Geographical Society, the Palliser expedition explored British North America from 1857 to 1860.[48] Henry Youle Hind, a geologist contracted by the Canadian government, led two Canadian expeditions into the interior in 1857 and 1858.[49] Both were on a mission to explore the West in search of its potential in resources and, ultimately, for settlement. The information gleaned from both these expeditions was to prove extremely influential in how the West was viewed for years to come. In Warkentin's words, it "laid the basic conceptual framework for our present interpretation of the physical geography of the Western Interior of Canada."[50]

The Palliser expedition was most influential for categorizing the area in the North West into specific districts based on soil fertility. Palliser conceptualized the existence of both a "fertile belt" and a desert area in the Canadian Prairie region, which he outlined in his general report. Hind's report, published in 1860, also embodied these concepts.[51]

---

[48] John Palliser, *The Papers of the Palliser Expedition, 1857*-1860, ed. Irene M. Spry (Toronto: The Champlain Society, 1968), xv, xxii-xxiv, 1.

[49] W. L. Morton, *Henry Youle Hind, 1823-1908* (Toronto: University of Toronto Press, 1980), 58-82. For details of the Hind expedition see Henry Youle Hind, *Narrative of the Canadian Red River Exploring Expedition of 1857 and the Assiniboine and Saskatchewan Exploring Expeditions of 1858*, 2 vols. (London: Printed by Spottiswoode and Co., 1860).

[50] John Warkentin, ed., *The Western Interior of Canada: A Record of Geographical Discovery 1612 to 1917* (Toronto: McClelland and Stewart Limited, 1964), 147.

[51] Hind's report was published three years before Palliser's report was released. Warkentin states the map, drawn by John Arrowsmith, that accompanied the British version of Hind's report "… not only showed 'The Great America Desert'…extending into the United States, but a 'Fertile Belt' stretching in a great arc from the Lake of the Woods to the Rocky Mountains, passing through the Red and Saskatchewan River Countries and ending in the foothills at the 49th parallel." John Warkentin, "Steppe, Desert and Empire," 118. Also commissioned to draw the maps for the Palliser expedition, Arrowsmith had access to Palliser's data and thus some of this information was incorporated into Hind's map even before it was published in Palliser's *Further Papers*. John Warkentin, "Steppe, Desert and Empire," 118-19.

The theory was that good land was to be found along the valley of the North Saskatchewan and land of poor quality was located in the Plains to the south. The poorest area occurred where the central desert in the United States extended north of the 49th parallel and formed a small triangle of arid land.[52] The land that would later be designated as Buffalo National Park along the Battle River, a tributary of the North Saskatchewan, was deemed by Palliser as good for the pasturage of livestock. Palliser wrote in his general report,

> The richness of the natural pasture in many places on the prairies of the second level [steppe] along the North Saskatchewan and its tributary, Battle River, can hardly be exaggerated. Its value does not consist in its being rank or in great quantity, but from its fine quality, comprising nutritious species of grasses and carices, along with natural vetches in great variety, which remain throughout the winter sound, juicy, and fit for the nourishment of stock.[53]

While Hind never explored as far as the area later designated as Buffalo National Park,[54] it appears from the description in *The Papers of the Palliser Expedition*, that Palliser passed as close as five to ten miles from the southern border of the park. On 6 July 1858, Palliser entered the vicinity of the park area. That day, as they had in previous days, the expedition continued to pass over both rich and inferior land. When they crossed Nose Creek, now called Ribstone Creek, Palliser commented on the good soil in the nine miles through which they had travelled east of the creek and the land they encountered west of it. He wrote, "The soil, consisting in many parts of a foot of black vegetable mould, supports an excellent crop of nutritious grasses."[55] But, as the expedition continued west, the quality of the land declined. The next day, they "descended into a valley filled with rounded sand-knolls and small lakes, the margins of which were clothed with poplars and willows." It was not until they reached the Battle River, just south of present-day Hardisty, that Palliser again found country "rich, and very suitable for agriculture."[56]

---

[52] Palliser, 9, 18-20.

[53] Palliser, 16.

[54] The closest that Hind came to the area of Buffalo National Park was the South Saskatchewan River. He followed the South Saskatchewan from the elbow to where this river meets the North Saskatchewan. Henry Youle Hind, *British North America Reports of Progress Together with a Preliminary and General Report on the Assiniboine and Saskatchewan Exploring Expedition* (London: George Edward Eyre and William Spottiswoode, 1860).

Palliser's impression of the park area was more negative, however, in a report to the Royal Geographical Society of London. Palliser had little to report on the region until he had reached Flag Hill, west of Battle River near present-day Hardisty. In recounting the progress of the expedition through this area he wrote, "I will not occupy your Lordship's time with minute details of our journey from this [Grand Coulée to the Battle River], as the prairie was neither well provided with wood nor rich in pasture, but will pass on to the period of our arrival at the Battle River."[57] Changes that occurred on the maps that were produced of the North West also seem to reflect Palliser's negative view of the potential of the land in this area. According to Irene Spry's descriptions of the 1859 map, the park would have fallen within the "fertile belt." However, in the 1860 and 1865 maps the northern border of the arid regions, or "true prairie," had been moved farther north and west.[58] Perhaps it was the discovery of inferior land, such as the tract found by Palliser in the park area, that initiated changes in the area defined as the fertile belt on these subsequent maps.

---

[55] Palliser, 243.

[56] Palliser, 243, 244.

[57] John Palliser, James Hector, and J.W. Sullivan, "Progress of the British North American Exploring Expedition," *Journal of the Royal Geographical Society of London* 30 (1860) 286.

[58] Irene Spry writes that the border between the true Prairie and fertile belt on the 1859 map was "an irregular curve running northwest across the South Saskatchewan, upstream from modern Saskatoon, to near modern Unity and thence westward, south of the Battle River, and across the Red Deer, swinging to

The influence of Palliser's theory of a fertile belt and desert triangle is evident from the numerous times it is used by those that visited or spoke about the region following the expedition. Commissioned by the Canadian Government to gather information of the conditions of the North West Territories in 1870, William Francis Butler was certainly aware of Palliser and used his theory when describing the "land of the Saskatchewan."

> Its boundaries are of the simplest description....It has on the north a huge forest, on the west a huge mountain, on the south an immense desert, on the east an immense marsh. From the forest to the desert there lies a distance varying from 40 to 150 miles, and from the marsh to the mountain, 800 miles of land lie spread in every varying phase of undulating fertility. This is the Fertile Belt...[59]

Palliser's theory was so influential that as the North West began to be considered for settlement, it became necessary to manipulate its findings; the area that was considered fertile by Palliser was extended to serve the interests of those wanting to expand into the area and make it useful. As Doug Owram has noted, "...the Canadian image of the North West had evolved over time not only to conform to scientific evidence but to meet the perceived needs of the nation."[60] Expansionists were overly optimistic, ignorantly portraying the entire region as fit for settlement. This same "optimism" continued on into the 1870s and 1880s as Canada began to compete for European

---

the south again a few miles east of today's No. 2 Highway from Edmonton to Calgary." Palliser, *The Papers of the Palliser Expedition*, cviii.

[59] William Francis Butler, *The Great Lone Land: A Narrative of Travel and Adventure in the North-West of America* (Edmonton: M. G. Hurtig Ltd., 1968), 230.

[60] Doug Owram, *The Canadian Expansionist Movement and the Idea of the West, 1856-1900* (Toronto: University of Toronto Press, 1980), 116.

immigrants to settle the North West.[61] In promotional literature, the desert image was eroded and replaced with a utopian view of agriculture fertility, as can be seen in the following excerpt from an 1887 brochure on the North West:

> To facilitate, to hasten the settlement of this magnificent country, whose natural beauties dispute the palm with the astonishing fertility of the soil, in 1882, the government divided the part of this prairie region…into four provisional districts… much the greatest part of these vast prairies possess a soil of astonishing fertility, and even in regions less favoured in this respect, there are no great extents as stated by Capt. Palliser, in his report to the Imperial Government, at all approaching to sterility….even in that strip heretofore designated "the desert" there is comparatively but a small part of the land unfit for the culture of cereals or for pasture.[62]

By 1880, an influential botanist and resource surveyor for the Canadian Pacific Railway, John Macoun, had successfully evaporated the idea that desert conditions existed in the southern Plains.[63]

Warkentin argues that this optimism did not cease with the arrival of the Dominion Land Surveyors in the late nineteenth and early twentieth centuries. When mapping the West for settlement, they favourably documented the area of the southern Plains,[64] solidifying the displacement of the notion of the existence of a desert.[65] While

---

[61] Owram, 60, 150.

[62] *North West of Canada: A General Sketch of the Extent, Woods and Forests, Mineral Resources and Climatology of the Four Provisional Districts of Assiniboia, Saskatchewan, Alberta and Athabasca* (Ottawa: Department of Agriculture, 1887), 5-6.

[63] Owram, 153. Palliser's reading of the arid area that he designated the "triangle" has proved to be quite an accurate anaylsis. Barry Potyondi states that the area designated as Grasslands National Parkland, which is found within Palliser's triangle, has been unable to remain stable under the pressures placed upon it since the Dominion government opened the area for settlement. Barry Potyondi and D. M. Loveridge, *From Wood Mountain to the Whitemud: A Historical Survey of the Grasslands National Park Area* (Ottawa: Parks Canada and Environment Canada, 1983), 25.

[64] Warkentin, "Steppe, Desert and Empire," 127.

[65] Owram believes that this optimism might be attributed to the fact that the Prairies experienced exceptionally wet years from the mid-1870s to the early 1880s. Owram, 150. One must also wonder to what extent this optimism can be attributed to the need to heavily promote the land near the C. P. R. line in order to make a southern railway line profitable.

Dominion Land Surveyors had confidence in the land in the southern arid regions, this same optimism is certainly not reflected in the reports of the early Dominion Land Surveyors that went through the Wainwright region. The survey reports of the Wainwright region both in the first block surveys in 1883 and 1884 and then the township surveys in 1903 were very candid about characteristics of the land and its unsuitability for settlement (see Figure 1).

While the field notes from the first block surveys did not include a written report of the area, Tom Kains, leader of one the surveying parties to go through this area in 1883, kept a diary. It was usually reserved for information on the expedition's movements and comments on the weather, but on 1 June he took notice of the poor soil and recorded, "Sandy Country with growth of stunted poplar."[66] His field notes for this day reflect his observation; both the alluvial soil, a depth of 18 inches, and the subsoil along the northern boundary of township 44, range 7 were found to be sand.[67] Similar inferior soil was found by James F. Garden, the surveyor who charted the majority of the park area. His field notes also record the most prevalent component of the soil to be sand. Garden surveyed the area around Ribstone Creek, just north of the area Palliser praised for its fertility, and also found it to be very sandy.[68] Only along the muskeg areas of the Ribstone was the soil found to be wet mould or loam above alkaline clay.[69] Despite the area's sandiness, the prosperous vegetation is surprising. Garden found stands of dense continuous poplar with Balm of Gilead. These large trees, found to be up to ten inches in diameter, were growing on a soil of sand.[70]

---

[66] Provincial Archives of Alberta (hereafter PAA), File 79.27, Box 2825, Diary of Tom Kains, 1883.

[67] PAA, File 83.376, Box 450, Field Notes of Block Survey West of the Fourth Initial Meridian, North-west Territories, Surveyed by Tom Kains, May 18 to June 2, 1883.

[68] In fact, Garden's field notes record rolling sand ridges just east of the Ribstone Creek, on section 36 of township 42, range 6. PAA, File 83.376, Box 903, Field Notes of Block Survey West of the Fourth Initial Meridian, North-west Territories, Surveyed by James Garden, June 27 to July 19, 1884.

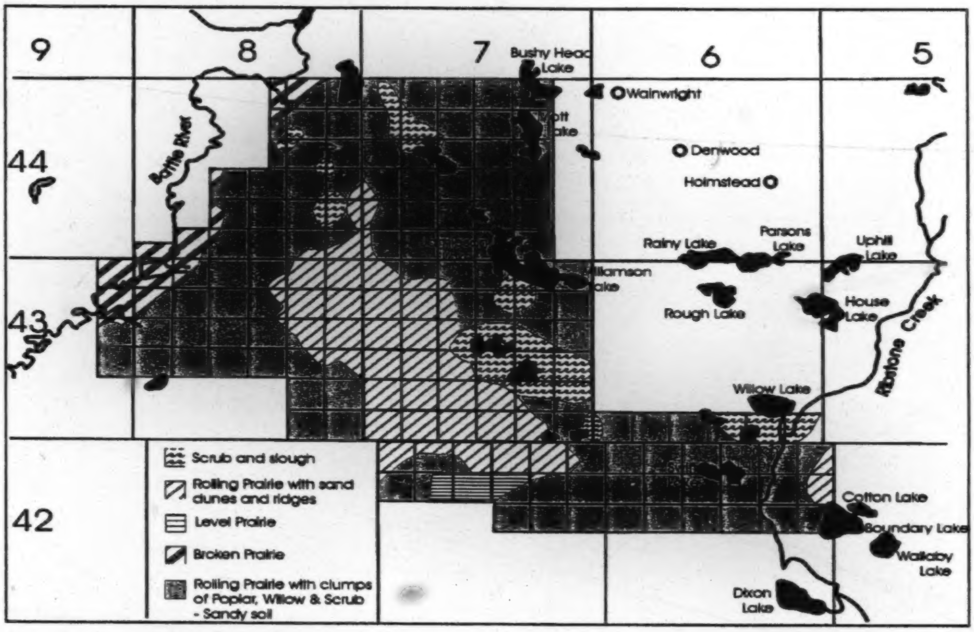
9
8
7
6
5
44
43
42
Bushy Hea
Lake
Wainwright
ott
ake
Denwood
Holmstead
Battle River
Rainy Lake
Parsons
Lake
Uphill
Lake
illamson
ake
Rough Lake
House
Lake
Ribstone Creek
Willow Lake
Cotton Lake
Boundary Lake
Wallaby
Lake
Dixon
Lake
Scrub and slough
Rolling Prairie with sand dunes and ridges
Level Prairie
Broken Prairie
Rolling Prairie with clumps of Poplar, Willow & Scrub - Sandy soil

Figure 1: Perceptions of Buffalo National Park Landscape Based on Records of Dominion Land Surveyors, 1883-1884, 1903. Source: Provincial Archives of Alberta, Dominion Land Surveyor Records, File 83.376.

The soil decreased in quality as Garden surveyed farther west along the eastern borders of townships 44 and 43, range 8 and his notations in his field books about the rolling sandy topography became very prevalent. In the southern part of the eastern border of township 44, range 8 Garden encountered sand ridges that continued as he surveyed south along the eastern border of township 43, range 8. In this area of low and high sand ridges he noted the inferior vegetation and commented in his notes on the "poor grass," "scrubby poplar," and "ground cedar."[71]

---

[69] PAA, File 83.376, Box 904, Field Notes of Block Survey West of the Fourth Initial Meridian, North-west Territories, Surveyed by James Garden, July 21 to August 22, 1884.

[70] These large trees were discovered in section 25, township 42, range 6. PAA, File 83.376, Box 903, Field Notes of Block Survey West of the Fourth Initial Meridian, North-west Territories, Surveyed by James Garden, June 27 to July 19, 1884.

While the 1883 and 1884 surveys only mapped borders of each township, the 1903 surveys charted and appraised each individual section in the township. Surveyor field notes could not be located for the entire park area, but the data found in those field notes that have come to light do not deviate from either the general impressions of Palliser or those of the earlier block surveyors. It is clear from the written reports that accompanied the 1903 township field notes that the surveyors' immediate impressions of land that would one day be designated as Buffalo National Park were almost entirely unfavourable.

Field notes from two surveyors who mapped the park area still exist. C. C. Fairchild's field notes seem much more articulate than those of M. B. Weekes, but both produce the same conclusions; the majority of the area was found to be very sandy and unfit for agricultural purposes. While Fairchild thought the northeast part of the township 43, range 7 would be suitable for grazing or mixed farming because it had good soil, black loam with clay subsoil, he encountered sand ridges in the southwestern portion of township 43, range 7 and these dunes continued into the northern part of township 42, range 7. He was less optimistic about the sand ridges and stated that they were "fit only for grazing and only the hollows fit for that."[72] Neither township had hay; there was only

---

[71] PAA, File 83.376, Box 904, Field Notes of Block Survey West of the Fourth Initial Meridian, North-west Territories, Surveyed by James Garden, July 21 to August 22, 1884.

[72] C. C. Fairchild was referring to the southwest part of township 43, range 7. PAA, File 83.376, Box 1782a, Field Notes of Township 43, Range 7, West of the 4th M., Surveyed by C. C. Fairchild, October 17 to October 26, 1903.

"highland prairie grass." Furthermore, timber in these townships would not meet the requirements of settlers and the lakes found in the northeast of township 42, section 7 were alkaline and unfit for use.[73]

C. C. Fairchild was a little more positive about the Ribstone Creek area in the eastern part of the park. While township 42, range 6, the township that Ribstone Creek flows through, was sandy, the discovery of eighty acres of good hay lands along the creek led him to believe it was "…good enough for mixed farming."[74] However, his reservations about the land surfaced again he surveyed the adjacent township of 42, range 5. Prompted by the sandiness and the lack of timber and hay he wrote, "The soil is light sandy and parts are fit for nothing, while the balance is for grazing land."[75]

Kains, Fairchild, and Weekes all expressed reservations when drawing their conclusions of the usefulness of this area for settlement; the agricultural potential of this land was questionable at best and, for the most part, advised against. Of township 44, range 8, one which seemed to have some of the better soil in the park area, Weekes wrote "this township is not suitable for anything except ranching, and is not very well adapted for that as the grass is not very good."[76] Thus, setting aside the land as a buffalo reserve made use of an area deemed unsuitable for agriculture. Ranging buffalo was also believed to be a return to the traditional land use of the area.

---

[73] PAA, File 83.376, Box 1779, Field Notes of Township 42, Range 7, West of the 4th M., Surveyed by C. C. Fairchild, July 3 to August 18.

[74] PAA, File 83.376, Box 1777a, Field Notes of Township 42, Range 6, West of the 4th Mer., Surveyed by C. C. Fairchild, August 19 to August 29, 1903.

[75] PAA, File 83.376, Box 1776a, Field Notes of Township 42, Range 5, West of the 4th M., Surveyed by C. C. Fairchild, September 1 to September 17, 1903.

[76] PAA, File 83.376, Box 1910, Field Notes of Township 44, Range 8, West of the 4th Mer., Surveyed by M. B. Weekes, September 18 to October 17, 1903.

While the area south of Wainwright was considered unfit for agriculture and settlement, it had been well known by both those living in, visiting, or exploring the Canadian West that the land was suitable for wildlife, most notably buffalo. Warkentin argues that traders knew that the land on the North Saskatchewan was more fertile than the land found farther south. Yet even they never associated this poorer land with a "desert wasteland" because the region was known to produce numerous buffalo.[77] Indeed, vast herds of buffalo had been observed by many explorers that passed through the region. In 1754, Anthony Henday, somewhere near the Alberta/Saskatchewan border, west, southwest of Battleford, encountered "…Buffalo grazing like English Cattle." A few days later and not far from this place, he jotted the following observation: "the Buffalo so numerous obliged to make them sheer out of the way."[78] Palliser also described buffalo in large numbers in the vicinity of the park. While near Ribstone Creek he stated, "As the buffalos were very numerous, regulations were made to economize our ammunition, and prevent the useless killing of animals."[79]

These perceptions were in accord with what archaeologists and historians know about the region. Buffalo National Park, located in this parkland belt, south of the North Saskatchewan and in the vicinity of the Battle River, was an area where the buffalo, and thus the natives, wintered. According to environmental historian Theodore Binnema,

---

[77] Warkentin, "Steppe, Desert and Empire," 106.

[78] Anthony Hendry, *The Journal of Anthony Hendry, 1754-55: York Factory to the Blackfeet Country*, ed. Lawrence J. Burpee (Toronto: Canadiana House, 1973), 26, 27. On 5 September 1754, Burpee estimates that Henday was travelling somewhere around Battleford. When Henday recorded on 13 September, "Saw many herds of Buffalo grazing like English Cattle," he had travelled at least 78 miles west, south-west of Battleford. Hendry, 25-26.

[79] Palliser, *The Papers of the Palliser Expedition*, 243.

"bison concentrations varied seasonally according to regular patterns under normal conditions and in predictable ways under anomalous conditions."[80] The "fescue crescent," the broad parkland belt south of the North Saskatchewan River, was the traditional wintering grounds for the plains bison. The bison migration season began by wintering in the broad fescue crescent in the northern prairie from September until the spring as it afforded the best forage and shelter to survive the winter.[81] Archaeologist J. Roderick Vickers has suggested that the natives who wintered in parklands from November/December to March subsisted on "stalking and communal hunting of bison."[82] Similarly, archaeologist George Arthur states "northern Plains tribes used the traditional jumps and pounds from late fall throughout the winter."[83]

Not only were buffalo important for sustaining native populations, but their migratory behaviour was also important in renewing the landscape of the Plains. George Arthur argues that many of the bison's behavioural habits benefited the land. Trampling, the heavy treading of the bison on the landscape, is a process that, under natural conditions, encourages growth of vegetation on a range by prompting the reseeding of natural grasses and helping to reduce water loss from the soil. Even behaviours such as wallowing and rubbing against trees, which on the surface appear to be destructive, were beneficial. While wallows destroyed ground cover, they also created craters that collected water after other moisture sources had dried up. Uprooting or breaking of trees through rubbing also helped to maintain the grassland by keeping trees, specifically aspen, from establishing on the Plains.[84]

---

[80] Theodore Binnema, *Common and Contested Ground: A Human and Environmental History of the Northwestern Plains* (Norman: University of Oklahoma Press, 2001), 39.

[81] Binnema, 40, 42-43, 45, 47-48.

[82] J. Roderick Vickers, *Alberta Plains Prehistory: A Review* (Edmonton: Alberta Culture Historical Resources Division, 1986), 7-8.

[83] George W. Arthur, *An Introduction to the Ecology of the Early Historic Communal Bison Hunting Among the Northern Plains Indians* (Ottawa: National Museums of Canada, 1975), 106.

Wildlife, particularly buffalo, flourished in the park area because it was in the vicinity of a tribal boundary between the Blackfoot and the Cree. On the North American Plains before the arrival of the Europeans, a 'commons' system existed which had well recognized tribal boundaries, separated by neutral areas.[85] Just south of Buffalo National Park, the Neutral Hills were a natural, recognized boundary between the Blackfoot to the southwest and the Cree to the northeast.[86] Speaking of the Cree territory, James Hector, the naturalist and geologist of Palliser's expedition, gave a description of the border between these two tribes. "In the latitude of Fort Ellice they sometimes pitch their tents as far west as the Elbow of the South Saskatchewan, and from that point their country may be bounded by a line carried to the Neutral hills, and thence on to the Beaver hills and Fort Edmonton."[87]

Paul Martin and Christine Szuter's research has revealed that the existence of war zones has had a greater impact in determining the size of game populations than the quality of vegetation or natural conditions. Specifically in the North American context,

---

[84] Arthur, 13-16.

[85] Irene Spry, "The Great Transformation: The Disappearance of the Commons in Western Canada," in *Man and Nature on the Prairies*, ed. Richard Allen (Regina: Canadian Plains Research Center, 1976), 21.

[86] Palliser, *The Papers of the Palliser Expedition*, 242.

[87] *Transactions of the Ethnological Society of London,* Volume I (London: John Murray, Albemarle Street, 1861), 249. While the Neutral Hills were believed to be a boundary, it is clear that such borders were not inflexible. Jack Brink has argued that the Blackfoot territory went as far north as the valley of the North Saskatchewan River. Jack Brink, *Dog Days in Southern Alberta* (Edmonton: Alberta Culture Historical Resources Division, 1986), 56. In fact, Palliser encountered a Blackfeet medicine lodge southwest of the park, two miles on the east side of the Battle River near Hardisty, Alberta. Palliser, *The Papers of the Palliser Expedition*, 244.

Martin and Szuter have found that wildlife flourished in between tribal boundary lines separating two hostile tribes, because such areas were too dangerous for either tribe to penetrate.[88] During Meriwether Lewis and William Clark's exploration in the United States, east of the Rockies, Clark commented on this phenomenon: "I have observed that in the country between the nations which are at war with each other the greatest numbers of wild animals to be found."[89]

Palliser's observations, in particular, show a similar occurrence of plentiful wildlife at the boundary between the Blackfoot and the Cree. His notes contain numerous references to the hostilities between these two tribes.[90] The Cree, aware that wildlife thrived inside war zones, informed the Palliser expedition on one occasion that they were "not more than two days' journey off from plenty of buffalo out westward; but they said they did not like to go so far, as they would then be in the enemy's country."[91] Three days later Palliser recorded encountering buffalo after entering the neutral area between the Cree and the Blackfoot.[92] Proof of the wealth of wildlife in the Wainwright area is perhaps best displayed on a map that accompanied the *Papers of the Palliser Expedition*; "Great herds of Buffalo" was written on the map across the area between the Battle River and the Neutral Hills right in the vicinity of Buffalo National Park (see Figure 2).[93] Thus, the area was a haven for wildlife long before the Canadian government established a park to preserve the buffalo.

---

[88] Paul S. Martin and Christine R. Szuter, "War Zones and Game Sinks in Lewis and Clark's West," *Conservation Biology,* 13 (February 1999) 38, 42-44.

[89] Quoted in Martin and Szuter, 43.

[90] For example, see pages 52, 53, 55 in *Journals, Detailed Reports, and Observations Relative to the Exploration by Captain Palliser, of that Portion of British North America, which, in Latitude Lies Between the British Boundary Line and the Height of Land of Watershed of the Northern or Frozen Ocean Respectively, and in Longitude, Between the Western Shore of Lake Superior and the Pacific Ocean During the Years 1857, 1858, 1859, and 1860* (London: George Edward Eyre and William Spottiswoode, 1863).

[91] *Journals, Detailed Reports, and Observations Relative to the Exploration by Captain Palliser,* 52.

[92] *Journals, Detailed Reports, and Observations Relative to the Exploration by Captain Palliser,* 53.

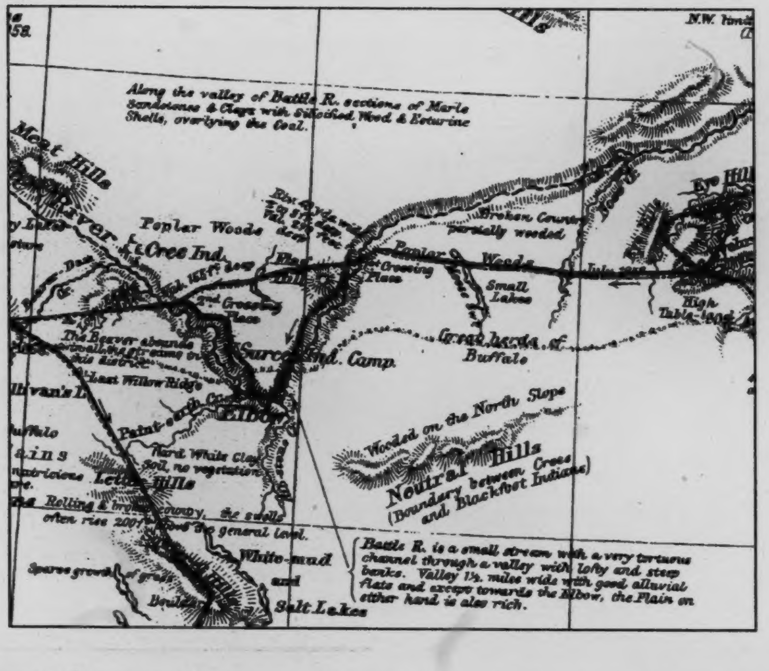
Along the valley of Battle R. sections of Marle Sandstones & Clays with Silicified Wood & Estuarine Shells, overlying the Coal.
Moose Hills
River
Poplar Woods
Cree Ind.
Crossing Place
2nd Crossing Place
Broken Country partially wooded
Poplar Woods
Small Lakes
High Table-land
Eye Hill
Great herds of Buffalo
Camp.
The Beaver abounds in all the streams in this district.
Last Willow Ridge
Paint-earth
Elbow
Hard White Clay Soil, no vegetation
Hills
Wooded on the North Slope
Neutral Hills
(Boundary between Crees and Blackfoot Indians)
Rolling & broken country, the swells often rise 200 ft above the general level.
White-mud and Salt Lakes
Sparse growth of grass
Battle R. is a small stream with a very tortuous channel through a valley with lofty and steep banks. Valley 1½ miles wide with good alluvial flats and except towards the Elbow, the Plain on either hand is also rich.
N.W. Limit

Figure 2: A General Map of the Routes in British North America Explored by the Expedition under Captain Palliser during the years 1857, 1858, 1859, 1860." Source: John Palliser, *The Papers of the Palliser Expedition*.

Thus, the land in the area of Buffalo National Park had long before settlement been fruitful as a buffalo commons and had been perceived as such. With the onset of settlement at the turn of the twentieth century, the land south of Wainwright was perceived as unsuitable for agriculture and thus deemed useless or wasteland. When the opportunity arose for the preservation of the near extinct plains bison, a use was given to the land south of Wainwright. As a wildlife reserve, the land, it was believed, would be returned to its traditional use; as such, it seemed an ideal way to utilize such worthless land.

---

[93] "A General Map of the Routes in British North America Explored by the Expedition under Captain Palliser during the years 1857, 1858, 1859, 1860," Palliser, *The Papers of the Palliser Expedition*.

The establishment of national parks in areas considered worthless for agriculture and development has a long history in North America. Alfred Runte, in his study of national parks in the United States, suggests that congress had an unwritten policy that only lands that were considered 'worthless' were set aside as national parks: "national parks, however spectacular from the standpoint of their topography, actually encompassed only those features considered valueless for lumbering, mining, grazing, or agriculture."[94] The Canadian approach to parks, although somewhat different, was influenced by the same attitude. As with the United States, parks in Canada were in areas that did not conflict with progress or development. Although the designation of areas as national parks did not impede advancement, the parks themselves were made useful. According to R. C. Brown, exploitation and development of parks and the resources in them was encouraged for the benefit of the Dominion.[95]

Although, there has been some recent debate over this "doctrine-of-usefulness" theory,[96] it cannot be denied that this philosophy was influential at the establishment of Buffalo National Park. In early 1912, the first Superintendent, Edward Ellis, considered the area to be poor agricultural land, declaring that no more than ten percent of the land in the park was adaptable to farming purposes. He considered it "very fortunate for landseekers that so much waste land [was] taken up by the park."[97] Homestead Inspector Joseph Bannerman assumed that the land was not valuable for agriculture as very few had settled in this area east of the Battle River.[98] This scanty settlement is apparent on a map titled *Ribstone Creek Sheet* that shows the land disposed of in the park area up to 15 October 1907. Although the park was already designated on this map, it clearly shows that much of the land outside the park had yet to be patented (See Figure 3).[99]

---

[94] Runte, 48, 49.

[95] Brown, 48-49.

[96] Alan MacEachern has challenged Brown's "doctrine-of-usefulness" thesis. He argues that Brown's use of the word "usefulness" is misleading because it seems to suggest that the Macdonald government created parks in order to exploit resources when the Macdonald government only condoned resource use in parks that had already been created. He also criticizes Brown's thesis because it ignores the "preservationist impulses present at the establishment of the first park." Alan MacEachern, *Natural* Selections, 16-17.

Furthermore, according to the Patent Branch report for the Buffalo Park Reserve, only two quarter sections in the entire park area had been homesteaded.[100] Clues about the state of the land and the lack of settlement in the area are also apparent in the controversy that arose in 1912 and was played out in the editorial columns of the *Wainwright Star*. John Thompson was one settler who argued that area settlers would not profit more if the park were opened for farming. He told how settlers had been eager to sell their land to the government in 1908;[101] Thompson himself was one settler "offering for sale lands held by himself and others adjoining the Buffalo Park Reserve."[102] Having owned land near the park, he had first-hand knowledge of the 'uselessness' of this area. He told how sections adjacent to the park on its west and northwest sides were unoccupied because the land was not useful. He stated that proof of the inferior quality of the land in the area could be seen on a homestead map of the area previous to its appropriation for the park; it would show "people were not willing to have [the land as] a gift."[103]

---

[97] NAC, RG 84, Vol. 982, File BU2[548608], pt, 2, Edward Ellis to J. B. Harkin, 4 May 1912.

[98] NAC, RG 84, Vol. 982, File BU2[548608], pt, 2, Memorandum to W. W. Cory, 6 Apr. 1918.

[99] Glenbow Archives, G3471, G4, s380, 266, *Ribstone Creek Sheet*, 15 Oct. 1907.

[100] NAC, RG 84, Vol. 981, File BU2[548608], pt, 1, Patent Branch Report on Lands Included in Buffalo Park Reserve, 28 Aug. 1907.

[101] NAC, RG 84, Vol. 982, File BU2[548608], pt, 2, "'Are Rural Residents to Suffer for this Paltry Tourist Trade?' He Asks," *Wainwright Star*, 12 Dec. 1912.

[102] NAC, RG 84, Vol. 981, File BU2[548608], pt. 1, F. H. Byshe to R. H. Campbell, 30 May 1908.

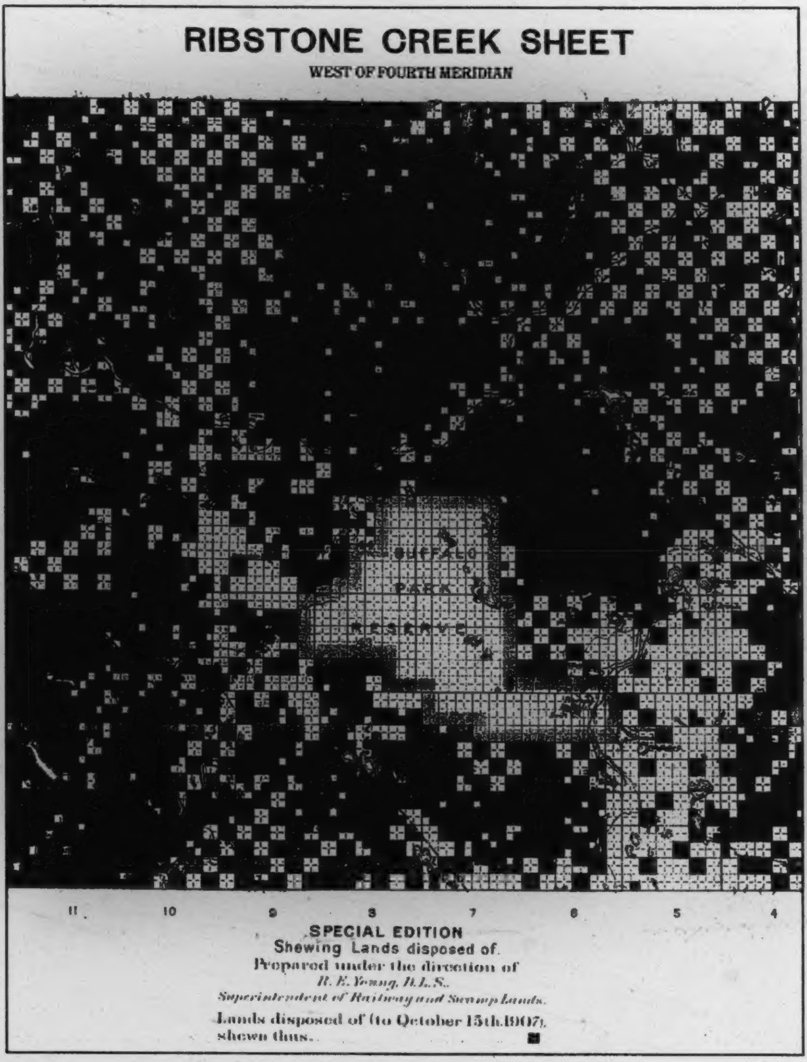
RIBSTONE CREEK SHEET
WEST OF FOURTH MERIDIAN
BUFFALO
PARK
RESERVE
11
10
9
8
7
6
5
4
SPECIAL EDITION
Shewing Lands disposed of.
Prepared under the direction of
R. E. Young, D.L.S.
Superintendent of Railway and Swamp Lands.
Lands disposed of (to October 15th.1907),
shewn thus.

Figure 3: Map Showing Unpatented Land in the Vicinity of Buffalo National Park. Source: Glenbow Archives, G3471, G4, s380, 266, *Ribstone Creek Sheet*, 15 Oct. 1907.

---

[103] NAC, RG 84, Vol. 982, File BU2[548608], pt. 2, "Farmer Argues that Buffalo is Bird in Hand," *Wainwright Star*, 20 Dec. 1912.

The creation of Buffalo National Park, to make the inferior farm land south of Wainwright "useful," was like turning back the clock to a more productive time. Yet, even with the knowledge of the historical potential of the region, it is curious that the land south of Wainwright was even considered for a buffalo reserve. Originally Elk Island Reserve, now Elk Island National Park, had been earmarked for the buffalo herd that had been purchased by the Canadian government. Following the purchase, the first two shipments of Pablo bison were transported to this reserve. However, a letter from Howard Douglas, superintendent of Rocky Mountains Park, to W. W. Cory, deputy minister of the interior, reveals that it was at Pablo's bidding that a new location was found for the bison preservation effort. Douglas wrote, "In looking over the Elk Park at Lamont, Mr. Pablo stated that he did not think it suitable for Buffalo as there was [too] much ~~sand and~~ bush, and the grass is not what the Buffalo are accustomed to. I would strongly recommend that some other location be obtained before the next shipment."[104] Pablo's preference for an area with less bush seems to have been based on his familiarity with the Flathead Valley in Montana. West of the Mission Mountains, Pablo raised his bison in a valley that sported a vegetation primarily of grasses and an arid climate. The Wainwright area, and not Elk Island National Park, seems to resemble more closely a 1908 description of the topography of the Ravalli Hills and Meadows in the Flathead Indian Reservation, an area adjacent to Pablo's buffalo range: "On the steeper slopes the grazing is scanty. In the ravines, on the protected slopes, and in the wide heads of gulches, the vegetation is luxuriant"[105]

---

[104] NAC, RG 84, Vol. 51, File BU209, pt. 1. Howard Douglas to W. W. Cory, 11 June 1907. Of interest, the word "sand" had been struck through in the original document. If Pablo was indeed looking for an area with less sand, Wainwright would not have fit the criteria. While Douglas' letter suggests that Pablo viewed Elk Island Reserve, I have yet to find any correspondence that shows Pablo gave his approval of the Wainwright area.

However, the historical capabilities of the Wainwright region were evoked when it became necessary to secure another area for a buffalo reserve, they certainly were not well understood. Most specifically, the interactions of the bison with the land and the ecosystem were forgotten, if, in fact, known at all. Previous to the European invasion, the vast herds of plains bison utilized enormous territory. As Douglas Bamforth's ecological study of the Great Plains proves, the growing seasons of various species of vegetation on the Plains and the migration of the buffalo allowed large herds to subsist on these lands. The plains bison moved according to the availability of grasses on the Plains, which was determined by climate and moisture. However, vegetation was also arranged in a composite, yet mutually dependent, pattern. Bamforth states, "The greater dominance of later-blooming warm-season species in southern than in northern grassland communities…indicates that the bulk of the forage production in the south begins later in the year and continues for a shorter period of time than in the north."[106] Although Bamforth studies the Great Plains as a whole, Binnema confirms his theory on a smaller scale in his argument of bison migration in the northern Plains. The migration season began in the area of the park, the broad fescue crescent in the northern prairie, as it afforded the best forage and shelter to survive the winter. In spring, the bison migrated to the moist-mixed prairie. Although generally dry, this area was wettest in May and June, which allowed protein-rich grasses to tolerate heavy grazing while moisture was present.

---

[105] Morton Elrod, "The Flathead Buffalo Range" in *Annual Report of the American Bison Society, 1905 – 1907* (n.p.: American Bison Society, 1908), 29.

[106] Douglas B. Bamforth, *Ecology and Human Organization of the Great Plains* (New York: Plenum Press, 1988), 65.

By July, the blue grama, a protein rich grass, beckoned the bison farther south to the dry-mixed prairie. Once the grass in this south range had been depleted, the bison again returned to the moist-mixed prairie where new growth had been encouraged by grazing, summer fires, and falling temperatures. By September, the herds returned to the fescue belt in the parkland in preparation for the colder weather and winter storms.[107] Seasonal migration was key to the environment of the Plains. The Plains environment was intricately arranged to facilitate the sustaining of such a large herd and, at the same time, permit the land to recuperate.

Thus, while the government and park planners understood that the Wainwright area had been productive as a buffalo commons in the past they failed to understand how bison and land interacted with each other. Restoring the land in the Wainwright area to a more traditional use and trying to raise the largest herd in North America would prove to be disastrous for both the park and the bison. The establishment of the park created a closed ecosystem, which did not take into consideration the most important characteristic of the bison species – its migratory nature. While it would have been impossible to establish a park on the Prairies that accommodated traditional bison migration patterns, an understanding of this facet of bison ecology would have restrained park officials from trying to grow the herd so rapidly. Ignorance of the importance of the interactions between bison and the landscape and management issues, such as carrying capacity, soon contributed to the pressure placed upon the landscape. Shortly after the effort began, the rapidly growing buffalo herd was proving too much for the resource base in the area to bear.

---

[107] Binnema, 40, 42-43, 45, 47.

Just as the views of this region by the early explorers and surveyors were based on preconceived notions of the potential of landscape, so too the reading of the area south of Wainwright by those involved in the establishment of Buffalo National Park was also shaped by cultural constructions. They symbolically linked the plains bison with the Canadian West. With the purchase of the Pablo plains bison herd, those initiating the effort to save the bison believed it might be possible to reenact the equilibrium that once existed on the Canadian Prairies. The Dominion government, however, soon realized that this task was more difficult than they first imagined.

Chapter 3: Nationalistic Fervour, Mythical Sentiments: Wildlife Preservation in Buffalo National Park

All early national park policies were dictated by the experience of Canada's first national park, Rocky Mountains Park, now Banff National Park. Legislated as a reserve in 1887, this park had little to look to in terms of building a philosophy. Rocky Mountains Park was established in order to profit from the discovery of the Banff Hot Springs; all ensuing policies governing Rocky Mountains Park during this early period were also driven by economic motives with an emphasis on commercialism and development of resources. Wildlife[108] was regarded as any other resource; it was to provide a benefit as either scenery or for the purpose of trophy hunting.

When Buffalo Park Reserve, later to become Buffalo National Park, was established in 1908, the national park concept in Canada was only two decades old. The experience of this park, Canada's seventh national park,[109] however, seems to be a departure from the commercial motives inherent in the establishment of the other early mountain parks. As a prairie park, Buffalo National Park had little to offer in terms of exploitable resources and had little other commercial potential. Furthermore, whereas wildlife in the mountain parks was preserved because it was considered valuable as a commodity, at first glance it appears that the Dominion government's effort to purchase and preserve Michel Pablo's plains bison at Wainwright was the genesis of authentic wildlife preservation policy in the national parks system. Not until *The National Parks Act* of 1930 would the national parks system officially begin to embrace the preservationist attitudes.

---

[108] In this essay, the word 'wildlife' specifically refers to large game animals. In the interest of space, the conservation of birds and fish, and predators, animals labelled by contemporaries as 'noxious creatures,' will not be discussed. For more information on animals that were considered predatory see Hewitt, *The Conservation of the Wild Life of Canada.*

[109] The following is a list of the early national parks up to, and including, Buffalo National Park, and the dates when they were set aside as reserves: Rocky Mountains, 1887; Glacier, 1888; Yoho, 1888; Waterton, 1895; Elk Island, 1906; Jasper, 1907; and Buffalo, 1908. McNamee, 20-22; Foster, 72; Graham MacDonald, *Science and History at Elk Island: Conservation Work in a Canadian National Park: 1914-1994* (Calgary: Historical Services Parks Canada, 1994), 16.

On the surface, it appears that the Canadian effort to preserve the plains bison was based on a genuine concern for the welfare of the species. When Pablo, who had one of the last free-ranging herds on the continent, was forced to sell his herd, the Canadians were praised for their forward thinking when they acquired the herd to preserve the species. While the purchase of the Pablo bison herd was not for reasons of profit, it was driven by motives that were exploitive in a different sense. On closer investigation, it is apparent that nationalism and myth were the two forces that steered the purchase. Ultimately, the adherence to these misdirected motives obscured the focus that should have been aimed on ensuring a proper preservation effort and sealed the fate of the Dominion government's effort to save the bison before it even began.

Buffalo National Park, purportedly established to preserve the plains bison, appears to have been a complete departure from Canada's first national parks, the mountain parks, which were founded for reasons of profit and governed by exploitive policies. The early national parks followed the precedent set by the Dominion government after the Banff mineral hot springs were discovered in 1885 by two prospectors and a Canadian Pacific Railway employee. In the spirit of progress and development that dominated this period, the federal government, upon hearing of the springs, annexed the area before these individuals could lay any private claims.[110] This action foreshadowed the priorities that would dominate the parks system in the future.

The Dominion government's motives behind acquiring the springs, as indicated by Prime Minster John A. Macdonald, were based on the knowledge that such natural wonders were profitable. Of the Banff Springs, Macdonald boasted, "They are the only hot springs so far as I know yet discovered in the Dominion and their value in my opinion can scarcely be estimated and should not be allowed to go into the hands of a private speculator but should be owned by the government as a National Sanitarium in the same way as the hotsprings of Arkansas are …for the United States."[111] Similar motives drove the establishment of other national parks along the Canadian Pacific Railway line. Glacier and Yoho reserves were set aside the following year to make the mountains sections in British Columbia more popular and profitable.[112]

Certainly, in this period, economic considerations, in the form of natural resource exploitation played the greatest role in the founding of the early parks. But it would be wrong to assume that early national parks philosophy was void of any preservationist ideals. In fact, as Sid Marty argues, the Canadian national parks system, although influenced by the example set by the national parks system in the United States, was more functionally preservationist. While Yellowstone National Park's mandate was based more on the value of preserving wilderness, Marty suggests that in reality it suffered neglect for fourteen years. In fact, the U. S. Army had to take control of the area in 1886 in order to halt destruction to the land and wildlife. Marty argues, however, that with the Rocky Mountains Park Act, "Canadian legislators tried to frame an act that would make the reservation a commercial success, but save it from the abuses of the ignorant and the avaricious."[113] The use of the word "preservation" in this Act laid the framework to build a preservationist policy in the future for national parks in general, and specifically for wildlife.[114] Any inclination towards preservation in these early years, however, was still governed by an atmosphere of development. And, the seemingly antagonistic concepts of preservation and development were not viewed as contradictory. A policy of development, it was believed, brought the whole area into usefulness. So, although the hot springs were initially the "most easily exploitable asset,"[115] other aspects of the Rocky Mountains reserve were also considered valuable. Mineral deposits and timber were jewels that if harvested would profit the Dominion crown.[116]

---

[110] Foster, 19.

[111] Quoted in Foster, 18-19.

[112] McNamee, 21.

This philosophy, coined the "doctrine-of-usefulness" by the historian Robert Craig Brown, governed the management of Rocky Mountains Park, and, in turn, other early mountain parks. The setting aside of areas to be made profitable for the Dominion was inherent in original Canadian parks policy. This policy was "a continuation of the general resource policy that grew out of the National Policy of the [John A.] Macdonald Government. Underlying parks policy was the assumption of the existence of plentiful natural resources within the reserves capable of exploitation and the principle of shared responsibility of government and private enterprise in the development of those resources."[117] Not only were resources extracted from the park in order to profit from them, the scenery itself also became a valuable commodity. Scenery, in fact, was indispensable if the tourist demand for wilderness is considered; it became so essential to the tourist industry that it was given monetary value by J. B. Harkin, Commissioner of Dominion Park. He calculated that the mountain scenery was worth $13.88 an acre, much more than the wheat-producing Prairies that were worth only $4.91 an acre.[118]

---

[113] Sid Marty, *A Grand and Fabulous Notion: The First Century of Canada's Parks* (Toronto: NC Press Ltd., 1984), 64.

[114] Foster, 26.

[115] Brown, 49.

[116] Brown, 48.

Wildlife in the early mountain parks was also treated as a resource to be exploited. The value of wildlife was recognized almost immediately after the establishment of Rocky Mountains Park. This early recognition is interesting given that, outside the parks system, the first acknowledgement of the importance of wildlife by the Dominion government did not occur until 1917; in this year, Clifford Sifton's *Review of Work of the Commission of Conservation* introduced the new branch of wildlife conservation as an "unusual interest."[119] Prior to this, it seems that the Dominion government did not consider wildlife to be an economically valuable resource.[120] Outside the Dominion government's sphere, however, concern for wildlife emerged at the same time it did in the national parks system. Regional and local organizations in the central and eastern provinces, having witnessed the destruction of their wildlife populations, began to advocate for wildlife conservation. Petitions of natural history societies and fish and game clubs successfully lobbied their respective provincial governments to take responsibility for game resources as early as the 1890s. These organizations petitioned for wildlife preservation because of aesthetic and recreational reasons.[121]

---

[117] Brown, 49.

[118] Marty, 98.

[119] Clifford Sifton, *Review of Work of the Commission of Conservation* (Montreal: The Federated Press, Limited, 1917), 5-14.

[120] In the Department of Agriculture reports, *Canada: Its History, Productions and Natural Resources*, wildlife was not even listed as an exploitable resource. In fact the placement of the chapter entitled "Animals and Hunting Grounds" at the end of the book in the 1886 and 1904 editions shows how little priority wild animals were given. Both these reports indicate an awareness of depleting wildlife numbers resulting from the advancement of settlement in the West. But beyond this brief mention, the Dominion government showed little concern for wildlife. The fact that the chapters on wildlife in both the 1886 and 1904 editions are exactly the same is proof that in nearly twenty years little thought, if any, had been given to investigating the importance of wildlife and their depleting numbers. *Canada: Its History, Production and Natural Resources*, (Ottawa: Department of Agriculture, 1886), *Canada: Its History, Productions and Natural Resources*, (Ottawa: Department of Agriculture, 1904), and *Canada: Its History, Productions and Natural Resources*, (Ottawa: Department of Agriculture, 1906).

The 1887 *Rocky Mountains Park Act* called for "the preservation and protection of the game and fish, [and] wild birds generally."[122] Thus, the effort to preserve wildlife at Rocky Mountains Park was both one of the earliest in Canada and the first move by a federal jurisdiction. This seemingly advanced and proactive policy, however, was not motivated by a genuine concern for the welfare of wildlife. In actual fact, preservation of animal life in the early national parks occurred for the same reasons as those of the regional and local advocates. Wildlife was treated as a commodity; it was protected to ensure its availability for recreational and aesthetic purposes. The preservation of wildlife for both scenery inside the park and sport outside was not considered contradictory. Ultimately, all connected with Rocky Mountains Park (the railway, the federal government, the park, and the businesses inside the park) had vested interests in wildlife and prospered both from its conservation inside the park and its depletion outside park borders.

---

[121] Loo, 96. Quebec was unique in that private fish and game clubs, and not the provincial government, began implementing measures to manage wildlife. Their effort to conserve wildlife was the earliest in Canada, starting in 1883. Loo, 97.

[122] Rocky Mountains Park Act, 50-51 Victoria, c. 32.

Essentially, the wildlife in Rocky Mountains Park and the other mountain parks became one of the most valuable resources to be exploited. During his administration (1897-1912), Howard Douglas, Park Superintendent, strengthened the park's stance towards conserving wildlife by implementing more stringent regulations governing its protection.[123] Not only did he increase the indigenous wildlife populations during his administration, but he also established the first park zoo in 1907 to draw tourists.[124] Douglas' enthusiasm for the growing wildlife population in Rocky Mountains can be seen in his taking "every opportunity in his annual reports to draw the Minister's attention to the increasing wildlife numbers within the park, particularly the buffalo, which were reproducing steadily, and to emphasize their growing importance as a tourist attraction."[125] This emphasis on wildlife as an economic asset was necessary. "Douglas knew… that the way to win [government] support was to demonstrate that both parks and wildlife were valuable attractions, that policies for their care and protection could become commercially viable propositions."[126] By 1906, Douglas had achieved this goal. "Wildlife was accounting for much of the park's growing popularity and thus paying for itself many times over."[127]

---

[123] Robert J. Burns, *Guardians of the Wild: A History of the Warden Service of Canada's National Parks* (Calgary: The University of Calgary Press, 2000), 3.

[124] Marty, 83-84.

[125] Foster, 57.

[126] Foster, 62.

[127] Foster, 62.

While the mountain parks were able to profit from their scenery and natural resources, the first two prairie parks, Elk Island Reserve, established in 1906, and Buffalo Park Reserve, established in 1908, could not be commercially exploited in the same way. The location of these parks was the primary reason. There were essentially no resources considered of value in these parks when they were established. The Beaver Hills area was continually ravaged by fire in the 1890s, which destroyed much of the timber and severely damaged the landscape. The destruction of the area by fire was the main reason that Cooking Lake Forest Reserve, a portion of which would later become Elk Island Reserve, was established in 1899.[128]

The appropriation of land south of Wainwright for Buffalo Park Reserve was acquired for the same reason – the area was considered agriculturally worthless. In fact, the act of making this unfit agricultural land south of Wainwright useful as a wildlife sanctuary was initially the sole exploitive action; there were no known resources in the area designated as a national park that could be exploited. And, even though the Wainwright area later proved to be rich in oil, development of this resource did not begin in the region until the 1920s[129] and this resource was never tapped while this area was under jurisdiction of the parks system.

Furthermore, the scenery of Buffalo National Park had little potential for tourist dollars. The sandy, dune-covered parkland simply could not compete with the sublime landscape of the Rocky Mountain parks. With little in the area considered of value, the Wainwright park would never draw the large numbers of visitors that the mountain parks did. Buffalo Park Reserve's recreational area, Mott Lake, was opened as a resort in the northern part of the park in 1917, but it was not much of a tourist draw. This "much celebrated picnic spot with booths, changehouses, swings, and a sandy beach patrolled by a lifeguard"[130] could hardly compete with the recreational opportunities available in the mountains. Moreover, although the park was on the Grand Trunk Pacific line, its remoteness from any larger center also contributed to the lack of tourism. Consequently, it is unlikely that the establishment of this park was steered by economic objectives.

---

[128] MacDonald, 9-10.

[129] F. A. Wyatt and J. D. Newton et. al, *Soil Survey of Wainwright and Vermilion Sheets* (Edmonton: University of Alberta, 1944), 9.

Rather, it appears that these two prairie parks were established for the purpose of preserving endangered wildlife. This apparent altruistic motive behind the establishment of Elk Island Reserve and Buffalo Park Reserve makes these two prairie parks stand as a departure from the resource exploitation inherent in the establishment of the mountain parks. The founding of Elk Island Reserve appears to have been based on a genuine concern for the elk in the area. In 1906, local citizens took the initiative to save the elk population that was threatened by hunters and wild fires. W. H. Cooper, a Northwest Territories Game Warden from Edmonton, informed the local member of parliament, Frank Oliver, of the peril the elk in the area faced unless measures were taken to protect them. After local residents lobbied the government, Clifford Sifton, minister of the interior, set aside a portion of Cooking Lake Forest Reserve as a wildlife sanctuary.[131]

The purchase of the Pablo herd by the Dominion government for Elk Island Reserve also initially appears to have been based on conservationist principles. Civil servants in the service of the Dominion government have been credited for the forethought given to preserve the species.[132] Unlike the situation at Banff, Coder shows, the situation at Buffalo National Park illustrates Douglas' perseverance in securing the herd moved beyond mere interest in a species for commodity sake alone. When the government showed some reservation concerning the purchase of the herd, Douglas fought for its acquisition. Eleanor Luxton, a former resident of Banff, stated in an interview that when Frank Oliver, minister of the interior, delayed making a decision for six months, Douglas carried on "quite a fight to get the buffalo purchase through."[133]

---

[130] Marsha Scribner, *Transitions Commemorating Camp Wainwright's 50th Anniversary* (n.p.: Jostens, 1990), 28.

[131] MacDonald, 15.

Indeed, it could be argued that Douglas used some of his old tactics and emphasized the value of the buffalo in order to sell the idea of purchasing the Pablo herd to the Canadian government. He spoke in terms of its value by telling how "the heads and hides of the herd [were] worth more on the open market than being paid for them on hoof...."[134] This apparent adherence to a preservation ethic can be seen almost immediately after the decision to purchase the herd was made by the Dominion government. The government was concerned to make sure that the animals were pure-bred,[135] and wanted assurances that the animals were healthy before they were shipped. Douglas reported to W. W. Cory, deputy minister of the interior, that "the Dr. Inspected the herd of about 220 head that were to be shipped...and found them all in good Condition and free from any disease."[136] Action was also taken when Pablo raised concerns about the suitability of Elk Island Reserve as a sanctuary for his buffalo. On

---

[132] Foster, 66-73.

[133] Quoted in Coder, 187.

[134] Quoted in Coder, 187.

[135] NAC, RG 84, Vol. 51, File BU209, pt. 1, Howard Douglas to W. W. Cory, 15 June 1906.

[136] NAC, RG 84, Vol. 51, File BU209, pt. 1, Howard Douglas to W. W. Cory, 22 May 1907.

Pablo's advice, the government immediately secured a new location, south of Wainwright, before the next shipment of buffalo.[137] This new reserve, Buffalo Park Reserve in 1908, would become Buffalo National Park in 1913.[138]

The amount of money the Dominion government expended on the herd might also be seen as sufficient proof that preservation of the plains bison took precedence over profit motives. The decision to move the buffalo to their new location in Buffalo Park Reserve could not have been understood as economically beneficial, especially when Elk Island Reserve lay much closer to Edmonton and had a greater potential of attracting tourists. Furthermore, the investment put towards this new park was also substantial. It required that an entire new reserve be fenced and the area prepared for the bison. Extra money had to be spent to transport the first two shipments of buffalo from Elk Island to the new park. The third shipment from Montana – the first to go directly to the Wainwright park – also proved to be costly. The Grand Trunk Railway had not yet been completed west of Wainwright because the Battle River Trestle was still under construction. The buffalo were instead shipped on the Grand Trunk Pacific line that approached the park from the east. This decision cost additional money because it required the co-ordination of five different railway lines over a distance of "some four or five hundred miles further than would otherwise be necessary."[139]

Buffalo National Park, from conception to enactment, did not concern gaining monetary profit from the buffalo. When it became apparent that capturing and moving the buffalo from the Flathead Valley, Montana, to Alberta would take much longer and cost more than anticipated, parliament approved an extra $75,000 to be allotted on top of the original sum of $100,000.[140] Furthermore, the Canadian government bent over backwards to acquire all of Pablo's buffalo when it was found that the herd consisted of more head than originally thought.[141]

---

[137] NAC, RG 84, Vol. 51, File BU209, pt. 1, Howard Douglas to W. W. Cory, 11 June 1907.

[138] NAC, RG 84, Vol. 982, File BU2[548608], pt. 2, Clerk of the Privy Council to the Minister of the Interior, 27 Mar. 1913.

[139] NAC, RG 84, Vol. 51, File BU209, pt. 2, F. H. Byshe to the Deputy Minister, 19 Aug. 1908.

Given this evidence, the effort certainly cannot be understood as being driven by motives of economic gain. In this respect, the purchase of the plains bison seems to stand as a precedent in the genesis of an authentic wildlife preservation policy. The purchase of the Michel Pablo herd to save the species took place a decade before saving wildlife for altruistic reasons was recognized by the Dominion government proper. Yet, while this saving effort was not profit driven, on closer investigation, it is clear that the preservation of the bison was pursued for equally selfish motives. Rather than a purely preservationist effort, the purchase of the Pablo herd and the creation of Buffalo National Park catered to public perceptions and boosted Canadian nationalism.

From the moment the opportunity to purchase the last and largest free ranging buffalo herd on the continent arose, it was clear the plains bison were viewed very differently from other wildlife. The most significant reason why buffalo were so revered was the species' threatened extinction. Wanton hunting and the encroachment of settlement in the West had led to the virtual disappearance of the plains bison in the

---

[140] NAC, RG 84, Vol. 51, File BU209, pt. 1, Rodolphe Boudreau to the Minister of the Interior, Extract from the Report of the Committee of the Privy Council, 31 Aug. 1907.

[141] NAC, RG 84, Vol. 51, File BU209, pt. 3, D. W. Johnson to Michel Pablo, 17 June 1913.

Canadian Plains.[142] In the United States, they existed only in small pockets. The uncertain fate of this species made the buffalo iconic.[143] In the United States, the plains bison became equated with the disappearance of the 'Wild West' – a symbol of "untamed nature, the frontier and masculinity."[144] It was believed that if buffalo were not saved from extinction, other icons and symbols of American culture would also disappear.[145] While there is an element of this sentiment in Canada, here the tone was more muted, but still unmistakeable. According to I. S. MacLaren, the buffalo operated as a symbol of western wildness. To early Europeans encountering the region, the buffalo came to represent the Canadian West itself. As MacLaren notes, "the buffalo acts synecdochically: the buffalo *is* the prairie."[146] C. Gordon Hewitt, writing in the 1920s, noted that "[t]he history of the buffalo in North America constitutes one of the greatest tragedies of animal life in historical times."[147] These popular and nostalgic sentiments would play an influential role in both the establishment and management of Buffalo National Park.

---

[142] Michael Clayton Wilson, "Bison in Alberta: Paleontology, Evolution, and Relationships with Humans," in *Buffalo*, eds. John Foster, Dick Harrison, and I. S. MacLaren (Edmonton, University of Alberta Press, 1992), 5-6.

[143] John E. Foster, "Introduction," in *Buffalo*, eds. John Foster, Dick Harrison and I. S. MacLaren (Edmonton, University of Alberta Press, 1992), viii.

[144] Andrew Isenberg, "The Returns of the Bison: Nostalgia, Profit, and Preservation," *Environmental History* 2 (April 1997) 181.

[145] Isenberg, 182.

[146] I. S. MacLaren, "Buffalo in Word and Image: From European Origins to the Art of Clarence Tillenius," in *Buffalo*, eds. John Foster, Dick Harrison and I. S. MacLaren (Edmonton, University of Alberta Press, 1992), 84.

[147] Hewitt, 113.

The near extinction of the plains bison also became a signal of the fate that might await other wildlife if destructive actions were not curbed.[148] Knowledge of the disappearance of species of wildlife in the United States with the onset of settlement was enough to evoke the fear of a similar trend in Canada. Janet Foster notes that North West Mounted Police (NWMP) started to record rapidly declining wildlife populations in the Canadian Prairie West in the 1880s. The NWMP were concerned not only because animal species were in danger of becoming extinct, but also because the disappearance of game would result in the elimination of a food source, which was vital to the survival of many native populations.[149] Thus bison symbolized more than the disappearance of a bygone era. They were a vivid reminder of the destructive and greedy nature of human kind.

The symbolic status that the plains bison had attained was very influential in driving the purchase. These bison represented a link not only to the region's past, but the Canadian West as a whole prior to settlement. That they accomplished this work is illustrated in one account that recollected the purchase. "The capture reads like a romance." The wild buffalo with "strength and cunning tried to outwit the captors." Upon arriving in Wainwright the "'Kings of the herd' chase[d] madly down the gang way" but smelt the "buffalo grass of the prairies…and soon they were all quietly feeding on the luscious grass…and following the old trails worn deep by the feet of their ancestors many years before."[150]

---

[148] Marty, 80.

[149] Janet Foster, 57-59.

[150] The style in which this piece is written suggests that it was a draft of a park promotional brochure on the history of Buffalo National Park and the purchase of the Pablo herd. NAC, RG 84, Vol. 51, File BU209, pt. 3, Animals Parks, n.d.

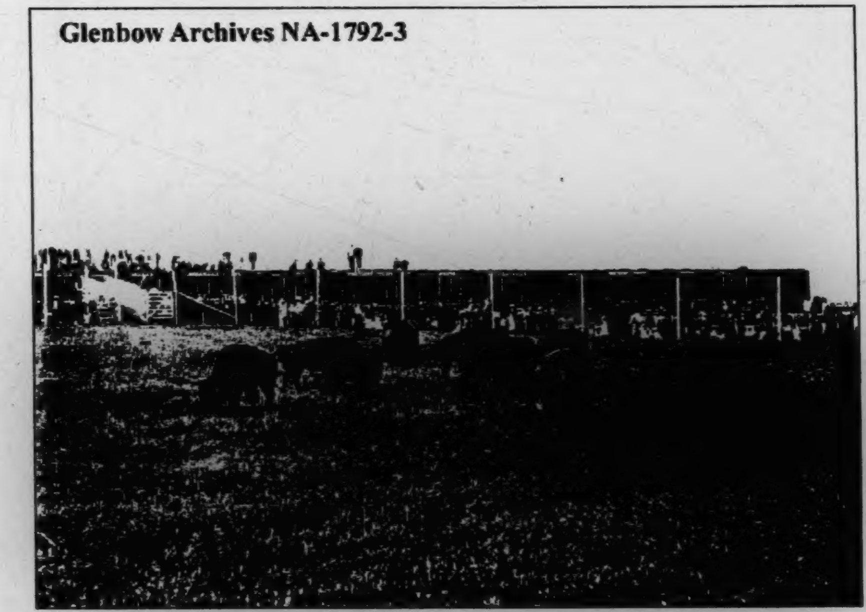

Figure 4: Arrival of the Pablo Bison at Wainwright. Source: Glenbow Archives, NA-1792-3.

There is, however, another element in the purchase of the Pablo herd tied to Canadian myth and nationalism that used the buffalo as a way to upstage the Americans. By the time of the purchase, wild plains bison had been absent from the Canadian Plains for almost two decades. Although most of the remaining bison in the United States were in private herds, the Pablo herd was considered by contemporaries to be the last free-ranging plains bison herd on the continent. Thus with the purchase, those in the Western states were losing an integral part of their past. The shock to members of the American public when the sale of the Pablo bison to interests outside the United States was made public cannot be overstated. One American newspaper called the sale of the Pablo bison to Canada as "One of the great American Crimes."[151]

This "crime" was in fact one of the primary reasons that the Dominion government wished to acquire the herd, and represented an opportunity to trumpet Canadian nationalism. Howard Douglas stated that with the purchase of the herd, "Canada would own 8/10 of all the Buffalo living" which would be a "great advertisement for Canada."[152] He believed the herd to be very cheap and that there would be "a great howl from the Americans should the [Dominion] Government decide to purchase them."[153] In fact, nationalism seemed to be one of the greater motives driving the purchase. Sid Marty argues that it was only after Douglas sent Deputy Minister William Wallace Cory a newspaper clipping revealing the plans of the American Bison Society to buy up the private herds of buffalo in the United States, that he received word to close the deal.[154]

The urgency to keep the negotiations for the purchase of the herd secret is also evidence of the primary role that nationalism played. The American Bison Society made known its intention to purchase all the remaining buffalo in the United States and Canada and present them to the United States government.[155] The Dominion government also became anxious to sign and seal the deal with Pablo when details of the sale of Pablo's buffalo to the Canadians were prematurely leaked to the *Great Falls Daily Tribune* by Billy Gird. Gird, it was reported, was a "cow puncher" "who claimed he was sent on official business by the Dominion Government to inspect the herd and tally them."[156] Even though an agreement had been signed between Pablo and the Dominion government in March 1907, there was always fear that the United States would step in and prevent the transfer.[157]

---

[151] NAC, RG 84, Vol. 51, File BU209, pt. 1, "The United States Could Not Afford To Purchase Them," *Great Falls Tribune*, 6 Apr. 1907.

[152] NAC, RG 84, Vol. 51, File BU209, pt. 1, Howard Douglas to W. W. Cory, 15 June, 1906.

[153] NAC, RG 84, Vol. 51, File BU209, pt. 1, Howard Douglas to W. W. Cory, 15 June, 1906.

[154] Marty, 85.

[155] NAC, RG 84, Vol. 51, File BU209, pt. 1, "Protect the Buffalo," Newspaper Clipping, n.d.

The role that nationalism played at the beginning of the effort actually mitigated against the proper preservation of the species. In fact, it is clear that the Canadians were more interested in acquiring every last buffalo, no matter the cost, in order to prevent the Americans from purchasing any. When there was news that some Americans were attempting to offer Pablo more money for his buffalo, the Dominion government insisted that the contract be followed to the letter. It called for the entire herd less ten heifer calves and two bulls which Pablo wanted for himself.[158] More bison were not needed in order for the government to commence the preservation effort to save the species. Rather, as confirmed by Douglas, the government was more interested in spiting those in the United States interested in the herd: "[A]s our contract calls for the whole herd, I think we should take every hoof. If you knew the amount of bluff the Americans are putting up you would feel like giving them a lesson."[159]

---

[156] NAC, RG 84, Vol. 51, File BU209, pt. 1, Benjamin Davis to W. W. Cory, 2 Apr. 1907.

[157] NAC, RG 84, Vol. 51, File BU209, pt. 1, W. W. Cory to Howard Douglas 7 Mar. 1907 and Howard Douglas to W. W. Cory, 15 June 1906. Even if the Canadians had not agreed to purchase the entire herd, they likely would have had nothing to fear. Pablo was very angry toward and distrustful of the United States government, especially after a representative approached him with an offer of $25 per head for his buffalo, and only begrudgingly increased his offer to $75 per head. Coder, 178-79. The *Edmonton Bulletin* reported that when Pablo was informed shortly after this meeting that the Flathead reserve would be thrown open for settlement, he made a reasonable connection between this decision and the government representative who had pressed him to sell his bison at a low price. D. J. Benham, "The Round Up of the Second Herd of Pablo's Buffalo," *Edmonton Bulletin*, 8 November 1907, 11. The insult to Pablo was evident in a conversation he had with Howard Douglas where he stated "he [would] kill every one [buffalo] before he will let the Americans have any." NAC, RG 84, Vol. 51, File BU209, pt. 3, Howard Douglas to W. W. Cory, 1 Mar. 1907.

[158] NAC, RG 84, Vol. 51, File BU209, pt. 1, Howard Douglas to W. W. Cory, 24 June 1907 and Howard Douglas to W. W. Cory, 1 Mar. 1907.

Table 1: Purchase Dates and Shipment Locations

Date	Shipment Location	Number of Buffalo
16 June 1909	Transferred from Elk Island Park	325
3 July 1909	3rd Shipment from Montana	190
17 October 1909	4th Shipment from Montana	28
31 October 1909	Transferred from Banff	77
21 June 1910	5th Shipment from Montana	46
17 October 1910	6th Shipment from Montana	28
23 November 1910	1st Shipment from Conrad Herd	15
20 April 1911	2nd Shipment from Conrad Herd	15
30 May 1911	7th Shipment from Montana	7
30 June 1912	8th Shipment from Montana	7
31 March 1914	Transferred from Banff	10
Total		**748**

Source: NAC, RG 84, Vol. 51, File BU209, pt. 3, A. G. Smith, "Statement of Original Shipments of Buffalo into Buffalo National Park, Wainwright," 14 Sept. 1926 and Publicity Division to Mr. Campbell, Memorandum, 31, Aug. 1924.

Thus the government, out of spite, purchased as many buffalo as it could from Pablo. It continued to accept buffalo from Pablo until 1912 and informed him that it was still open to news of further shipments even after the contract was officially closed.[160] Other buffalo, outside of the Pablo contract, were also added to the park. Thirty buffalo were purchased from the C. E. Conrad Estate in Kalispell, Montana,[161] and some were also transferred from Rocky Mountains Park (See Table 1).[162] Although other bison were added because officials wished to add more blood to the Wainwright herd, there was little concern over how these bison might contribute to the total population.

---

[159] NAC, RG 84, Vol. 51, File BU209, pt. 1, Howard Douglas to W. W. Cory, 27 July 1907.

[160] NAC, RG 84, Vol. 51, File BU209, pt. 3, D. W. Johnson to Michel Pablo, 17 June 1913.

[161] NAC, RG 84, Vol. 51, File BU209, pt. 3, Howard Douglas to W. W. Cory, 19 Oct. 1910 and Howard Douglas to the Secretary of the Interior, 23 Nov. 1910. The American Bison Society reported that Charles Conrad and his brother established their herd of buffalo with the purchase of thirty head in 1901 from Charles Allard's widow. Therefore, the bison purchased by the Canadian government from Mrs. Conrad

There is also evidence that the Dominion government's understanding of preservation at the time of the purchase was equated with increasing population numbers.[163] Yet the Park Branch's interest in acquiring more buffalo was also fuelled by nostalgia. Initially, those running the effort appeared more concerned with restoring the bison to the numbers in which they once existed on the Canadian Plains than anything else. Thus, the substantial growth of the bison herd in Buffalo National Park prior to 1920 was believed to be evidence of a successful preservation effort. Absolutely no thought was given to the impact that this herd was to have on the range and the health of the herd as a whole.

The nucleus herd of 748 buffalo imported into the park increased very rapidly. In 1916, four years after the final shipment of the Pablo buffalo, the herd at Wainwright had already exceeded 2,000 head.[164] This rapid increase was believed to be evidence of the Canadian government conducting a successful experiment "under careful

---

were actually originally Pablo-Allard buffalo. NAC, RG 84, Vol. 53, File BU232, pt. 3, "The American Bison in 1924," *Hunting and Conservation: Boone and Crockett Club Book*, 405-06.

[162] Plains bison were introduced into Rocky Mountains Park in 1897. Janet Foster argues that Howard Douglas realized the importance of the bison as both a near extinct wildlife species and a tourist attraction and these reasons prompted him to acquire some of the animals for Rocky Mountains Park. Janet Foster, 66. A small herd of bison still exists in Banff National Park in a paddock located north of the town site.

[163] When Douglas first viewed the Pablo herd, he was pleased to find that Pablo "[had] never given any attention to the herd, and they [had] increased without any effort on his part." NAC, RG 84, Vol. 51, File BU209, pt. 1, Howard Douglas to W. W. Cory, 15 June 1906.

[164] NAC, RG 84, Vol. 53, File BU232, pt. 1, J. B. Harkin to W. W. Cory, 4 Feb. 1916.

management."[165] Gordon Hewitt, the Dominion entomologist and consulting zoologist, was impressed with the successful increase; he boasted that the care and protection given to the Pablo herd had resulted in the Dominion government owning the largest herd of buffalo in existence.[166] Although park officials were concerned about the rapid increase of the herd only a few years after the park opened, it is significant that initially their alarm was based only on economic considerations, not the size of the herd *per se*. J. B. Harkin, Commissioner of National Park, feared that

> [w]hile the maintenance of this herd for the time being....has the full backing of public opinion this condition may [not] always continue. At present the backing is the result of sentiment alone. This sentiment arises out of a natural desire to preserve specimens of the original dominant animal of the plains and I think is accentuated by a national pride with respect to the coup which resulted in the transfer of the Pablo herd from the United States to Canada. Sooner or later, however, as time goes on I anticipate an increasing number of people will question why a considerable amount of money should be spent annually upon the preservation of the buffalo.[167]

By the 1920s, however, the Parks Branch had awakened from its dreams of nationalism and myth to find itself faced with a stark reality: the bison herd had increased so rapidly that it was fast approaching the capacity of the park. Furthermore, the cost of maintaining the herd was skyrocketing. The attitude that the Parks Branch had originally held towards the effort made an about-face, best illustrated by the opportunity the Dominion government was given in 1914 to purchase the Scott Phillips buffalo herd, 430 head from South Dakota, which were progeny of the Frederick Dupree herd.[168] One of the justifications proposed for purchasing the herd was the same nationalistic sentiment that had propelled the original purchase of the Pablo herd; "the Dominion acquiring the last large herd of good buffalo left in the United States…[would leave] the United States that much the poorer."[169] By 1920, the herd had not yet been purchased and the request surfaced again. This time, however, it is clear that J. B. Harkin was no longer swayed by myth or nationalistic fervour. He stated, "We now have the dominating buffalo herd of the world and I scarcely think our aim should be to have all the buffalo in the world. Our own herds are increasing so rapidly that we are perilously near our range limitations."[170] Instead of myth and nationalism, the crisis of overpopulation and the numerous problems related to it were now driving the management of the bison; preservation considerations had yet to become the focus of the effort.

---

[165] NAC, RG 84, Vol. 54, File BU232, pt. 4, Newspaper clipping, "Rebuilding the Buffalo Herds," 6 July 1927.

[166] Hewitt, 135.

[167] NAC, RG 84, Vol. 53, File BU232, pt. 1, J. B. Harkin to W. W. Cory, 4 Feb. 1916.

[168] NAC, RG 84, Vol. 155, File U209, pt. 1, John E. Sloat to Dr. Roche, 25 Feb. 1914.

From the 1920s onward, the park would continually face problems resulting from the overpopulation of the herd. The overgrown herd placed enormous pressure on the range, which resulted in degradation of the landscape and a lack of forage. These two crises combined contributed to the decline in health of the herd and the spread of disease. Consequently, the main impetus of Buffalo National Park, from the 1920s to its closure, was crisis management. Preservation continued to be an afterthought to those running the effort; it was, in fact, never the priority of the park.

That the park and the buffalo continued to play a nationalistic and mythical role for the general public, is evident in a piece written by Mabel Williams, Commissioner J. B. Harkin's secretary, of her visit to Buffalo National Park. She depicts the park as a place where the visitor was transported back to the by-gone days when buffalo ruled the Plains:

---

[169] NAC, RG 84, Vol. 155, File U209, pt. 1, Letter to J. G. Mitchell, 7 Mar. 1914.

[170] NAC, RG 84, Vol. 155, File U209, pt. 1, Note from J. B. Harkin on Letter to J. G. Mitchell, 19 Feb. 1920.

> Then over the edge of the nearest knoll rises a dark brown shape followed by two, ten, twenty, fifty, numberless others….Slowly and rhythmically they move down the slope in endless procession, spreading out like a brown cloud on the plain. For a moment the reel of time reverses. You are in a "prairie schooner" traveling to North-west Canada in the great "Buffalo Days" of a hundred years ago. But only for a moment. Then the smell of petrol and the drumming of your engine remind you that this is the twentieth century and that you are sitting in a Ford taxi hired in the neighbouring village, gazing at the national buffalo herd in their vast reserve at Wainwright, Alberta.[171]

The fact that Hollywood came to film motion pictures in the park is also proof that to those outside the Park administration, the bison provided a link to a by-gone age. In 1923, a film crew came to shoot footage that was used in the motion pictures "The Covered Wagon," "The Last Frontier," and "Flaming Frontier." In 1925, another motion picture, "The Thundering herd," starring Hoot Gibson was shot at the park. The shooting of these motion pictures was not only an opportunity for Hollywood to recapture the past on film, but also a chance for those involved to step back in time. Even the Parks Riders, who were employed at the park and aware of the some of the problems the effort faced, clearly enjoyed the opportunity to participate with local cowboys and one hundred natives from the Hobbema Reserve and re-enact the myths they held of the "Wild West."[172] Clearly, as made apparent by the passage written by Williams and the motion pictures filmed at the park in the 1920s, more emphasis was placed on re-enacting nostalgia and less attention was paid to containing the herd at a manageable level. It is clear that such sentiments, combined with the public support of the herd, overshadowed the implementation of proper management decisions and, most importantly, prevented park officials from applying proper culling procedures to reduce the size of the herd.

---

[171] M. B. Williams, *Guardians of the Wild* (London: Thomas Nelson and Sons Ltd., 1936), 73-74.

[172] E. J. (Bud) Cotton, *Buffalo Bud: Adventures of a Cowboy* (Vancouver: Hancock House Publishers Ltd., 1981), 88-89 and *Buffalo Trails and Tales* (n.p.: Giltedge Ladies Booster Club, 1973), 53.

The fact that myth and nationalism continued to fuel the public support of the bison effort is most evident at Buffalo National Park's closure in 1940. Judging from the numerous protests over the decision to close the park, it is clear that many citizens believed the park to be a valuable link to the region's past.[173] While the Parks Branch's nationalist motives had been absent since the 1920s, when the park began to experience problems associated with overpopulation, this nationalism reasserted itself in the late 1930s with the imminent closure of the park. Even though the effort at Buffalo National Park had not been successful, the importance in maintaining the credibility of the park as a wildlife preservation effort is illuminated by the fact that the Department of National Defence takeover of the area in 1940 for use during the Second World War was seen as providential.[174] While those in the Parks Branch were concerned that Buffalo National Park not be viewed as a failure in wildlife preservation, it is clear that preservation of the bison never became the priority of the effort. Rather, the misdirected motives of myth and nationalism at the time of the purchase resulted in critical problems for the effort, which the park was never able to overcome.

At first glance, the establishment of Buffalo National Park appears to have been ahead of its time. With the establishment of this park, apparently there emerged a new direction in wildlife preservation policy; the plains bison were to be protected for their own sake, not for commercial purposes. The primary role played by nationalism and myth at the beginning of the effort, however, overshadowed the emphasis that should have been placed on understanding how to best preserve the species. It was this lack of attention at the purchase that determined the course this bison preservation effort was to take. Nationalism and mythical sentiments were exploitive forces in their own right; those instigating the purchase made use of the bison to outdo the Americans and repopulate a nearly extinct species that was part of both the symbol and myth of the west. These motives were misdirected, however, and they quickly expired under the overpopulation of the buffalo herd and other related problems. Caught unaware, officials, from the 1920s onward, focused all their efforts on combating the management crises that emerged.

---

[173] See NAC, RG 84, Vol. 982, File BU2 [548698], pt. 3.

[174] NAC, RG 84, Vol. 982, File BU2 [548698], pt. 2, The Director of the Department of Mines and Resources to the Deputy Minister, 28 Sept. 1939.

While the establishment of Buffalo National Park aimed to preserve the plains bison, it was never the intention of the park to turn this animal into a commodity. After only a few years, however, the Parks Branch was forced to enact a policy that was just as exploitive as the wildlife policies in the mountain parks. Beginning in 1922, the Parks Branch began to slaughter the surplus bison in the Wainwright herd; the meat was sold commercially in order to help recoup some of the high expenditures the effort was incurring. Thus adherence to more selfish motives from the purchase resulted in an effort that was anything but preservationist. Preservation was placed on the backburner at the purchase and remained there for the entire existence of the park.

Chapter 4: "A Well Run Ranch"[175]: Domestication and Commercialization of the Plains Bison in Buffalo National Park

With the purchase of the Pablo plains bison herd from the Flathead Valley in Montana in 1906, the Dominion government embarked on the largest wildlife preservation effort of the early twentieth century. From the beginning, however, both the structure of Buffalo National Park and the management of the plains bison herd resembled a domestic cattle operation rather than a wildlife preservation effort. Ellis Treffry, son of Vern Treffry who was employed as a Park Rider from 1921 to 1939, described the park as "essentially a big ranch, other than [that] they had buffalo instead of cattle."[176]

At first glance, the ranch style management which was imposed on the bison at Wainwright appears conservationist in nature. Reflective of the policies that governed resources and wildlife management in the mountain parks, preservation in this context meant "planned and efficient use of natural resources to ensure their permanence."[177] As Robert Craig Brown argues, the earliest preservationist policies were administered in the first national parks when it served to make the resources useful to both the parks system and country as a whole.[178] Conservation was not intended as an exploitive practice but rather a sustainable and careful means by which to use resources to ensure prosperity in the future.[179] Given that in this early park era the terms preservation and conservation were understood to be one and the same, it is not surprising that the Dominion government's effort to save the plains bison from extinction, while purported by those administrating it to be driven by altruistic motives, was also informed by utilitarianism, and the buffalo saving effort at Buffalo National Park resembled that of a domestic cattle operation.

---

[175] In an interview Adeline Schleppe, daughter of Park Rider Bert Kitchen, stated that her understanding of the park from descriptions told to her by her father and other park employees was that it was "a well run ranch." Adeline Schleppe, personal interview, 11 November 2002.

[176] Ellis Treffry, personal interview, 11 November 2002.

[177] Alan MacEachern, *The Conservation Movement.*

[178] Brown, 58-59.

One of the main reasons that the effort to save the bison came to be driven by a utilitarian mandate was that the initial purpose of the preservation effort was an increased herd. Both nostalgia and the symbolic status of the buffalo spurred park officials to grow the largest buffalo herd in North America. This policy was adhered to quite innocently in the early years of the effort due to the lack of knowledge available on wildlife science: those in administration in the Department of the Interior and, after 1911, the Parks Branch depended on agricultural knowledge to guide the effort. The rapid increase of the herd in the first decade of the effort (1909-19) was heralded as evidence of a successful preservation effort. However, this success produced a second policy that, by the 1920s, took precedence over the saving and increasing of the herd. This second policy dictated that the growing herd needed to be made financially useful in order for the effort itself to be sustained. Although historian Thomas Dunlap argues that by the 1930s management of wildlife in the national parks system was informed by emerging ecological research that called for the protection of wildlife, such considerations had little bearing on the management of the plains bison at Buffalo National Park.[180]

---

[179] MacEachern, *The Conservation Movement*.

A distinction, however, should be made between the conservation of the bison at Wainwright, or efficient use of the herd – a means by which all early wildlife efforts were structured and managed – and the second policy administered by the Parks Branch in the 1920s – the outright commercialization of the herd. It should be noted that the Parks Branch never intended to run a commercial venture, and initially was hesitant to implement policies to curtail the growing size of the herd. In hindsight, their approach to the overpopulation problem was perhaps too cautious. Conflicting ideas of how ethically to manage the excess growth of the buffalo herd and a delayed response, due to deliberations of how to make the herd most profitable, created an even greater crisis.

Furthermore, the decision to implement a management policy of commercializing the herd came at a cost of the very effort itself. Attention to reducing the number of animals overshadowed, and eventually took precedence over, both the principles of preservation and conservation. From the 1920s until the closing of the park, the Parks Branch became involved in the outright commodification of wildlife – the ranching of buffalo. The Parks Branch found itself in a situation where the commercialization of the herd became necessary to sustain the effort financially. These schemes, implemented under this commercialization regime, however, compromised the very integrity of the species itself. Somewhere in the desperation to make the overgrown effort pay for itself, the buffalo herd, while technically already domesticated,[181] completely lost its 'wildness.'

---

[180] Thomas Dunlap, "Ecology, Nature, and Canadian National Park Policy: Wolves, Elk, and Bison as a Case Study," in *To See Ourselves/To Save Ourselves: Ecology and Culture in Canada*, ed. Rowland Lorimer et al. (Montreal: Association for Canadian Studies, 1991), 144.

Even prior to the establishment of the parks system, saving wildlife, especially those species considered to be on the verge of extinction, was enacted with a spirit of utility. The notion that preservation was equated with domestication is perhaps best illustrated by C. "Buffalo" Jones' attempt to preserve wood bison, muskox, and reindeer at the turn of the twentieth century. At this time it was believed that a species had to be domesticated in order to be saved. Jones, the individual famous for the role he played in saving the plains bison from extinction in the 1880s, was worried about the welfare of the mammals in northern Canada. He approached the Dominion government in 1899 with a proposal to capture some of these animals so as to save them from extinction. In a letter to the governor general he wrote, "It is of the greatest importance that Some of booth [*sic*] the buffalo or Bison and Musk Ox, and also a few Reindeer Should be domesticated and preserved, as no law can protect them against distructive Storms, Wolves, or hungry Indians, particularly the buffalo that are so near extinct in a wild state."[182] Although the expedition, due to various complications on Jones' part, never came to fruition, the eagerness of the government to comply with such a scheme is sufficient proof that the Dominion government had a similar understanding of the concept of preservation. It might be argued that the government agreed to the scheme because Jones agreed to donate half of the animals he captured to the Banff zoo. However, the government was willing to violate the provisions set out in the Unorganized Territories Game Preservation Act[183] because it believed that the act of saving the species, through capture and domestication, would withstand any criticism. As one official wrote, "It would be a good thing to list the domestication of … these classes named, the Muskox in particular."[184]

---

[181] The *Oxford English Dictionary* defines "domesticate" as: "To accustom (an animal) to live under the care and near the habitations of man; to tame or bring under control." "Domesticate," *Oxford English Dictionary Online*, n.d., <http://dictionary.oed.com> (14 June 2004). The difficulty with the use of the term in the literature is that hybridization has also traditionally been defined as a domestication scheme. For the purpose of this thesis, a distinction will be made between "domestication," adapting and pacifying an animal to be controlled and used by humans, and "hybridization" or "crossbreeding," which will be addressed in chapter 6.

[182] NAC, RG 84, Vol. 155, File U209-1, pt. 1, C. Jones to Governor General of Canada, 8 Nov. 1899.

Interest in domesticating wildlife was by no means a new idea during this time in Canada. George Colpitts states that the Hudson's Bay Company had attempted to conserve beaver as early as the 1820s. By the 1890s, fur-farming, raising fur-bearing animals such as fox and mink in captivity, had become a booming enterprise because of an increased demand for pelts. Of significance here is that domestication was not only viewed as a means to profit from these animals, it was also a means by which to preserve a resource feared to be in danger of being decimated by over hunting.[185] The Dominion government continued to explore wildlife domestication schemes in the early twentieth century. A 1922 Department of the Interior report investigated the potential of domesticating musk-ox and reindeer. These animals were not in danger of extermination, but the government hoped to safeguard the animals for future use since these animals were deemed a valuable meat supply. The hides of the animals and the wool of the musk-ox were also felt to have potential.[186]

---

[183] This act, passed in 1894, prohibited the killing of some northern mammals, such as the wood bison, and imposed restricted seasons for the hunting of other northern species. Barry Potyondi argues that this act, implemented in response to the extermination of wildlife on the Plains of the Canadian West, was itself conservationist. The installation of this act represented more a concern over the loss of a food source for the native populations than a concern for protection of these northern species. Barry Potyondi, *Wood Buffalo National Park: An Historical Overview and Source Study* (n.p.: Parks Canada: 1979), vii, 64.

[184] The Dominion government agreed to allow Jones to capture ten bison, twenty-four musk oxen and twenty-six reindeer each year over a two-year period. NAC, RG 84, Vol. 155, File U209-1, pt. 1, William Pearce to Mr. Lyndwode Pereira, 20 Nov. 1899, T.G. Rothwell to Deputy Minister, 18 Dec. 1899, James A. Smart to C. J. Jones, 22 Dec. 1899, and T.G. Rothwell to C. J. Jones, 11 Jan. 1902.

[185] George Colpitts, "Conservation, Science, and Canada's Fur Farming Industry, 1913-1945," *Social History* 30 (May 1997) 81-82.

Saving wildlife from extinction, by means of domestication, was also understood in this early period in terms of propagating the population of a species. Preservation, in this way of thinking, was a product of the perception, in the latter-half of the nineteenth century, that once-abundant wildlife populations could not survive the onrush of development and settlement. Perhaps the biggest event that sounded the alarm that wildlife populations needed to be saved was the disappearance of the plains bison in Canada by the 1880s. If herds as vast and as important as the buffalo could disappear over mere decades, it was believed that all wildlife species were at risk of extinction. Given the changes to the North American West, the only way that bison could be saved was by raising them in private herds in order to increase their numbers and protect them from poachers. Thus, the five bison preservation efforts that are credited with saving a remnant of these animals from the holocaust of the late nineteenth century were actually domestication efforts.

James MaKay and Charles Alloway of Manitoba, Charles Goodnight of Texas, Samuel Walking Coyote of Montana, Frederick Dupree of South Dakota, and Charles "Buffalo" Jones of Kansas all captured buffalo calves when it became clear that the species, without some intervention, would disappear from the Great Plains. The lineage of the majority of bison alive today can be traced to these efforts. While these individuals have been credited with saving the species from extinction, their motives behind capturing these calves were very different. While the McKay-Alloway, Dupree, and

---

[186] *Reindeer & Musk-Ox: Report of the Royal Commission upon the Possibilities of the Reindeer & Musk-Ox Industries in the Arctic and Sub-Arctic Regions* (Ottawa: Department of the Interior, 1922), 7, 14, 15-16, 18, 21, 27-28.

Goodnight efforts appear to be have been driven by concern that the buffalo would disappear, Jones was interested in saving the buffalo in order to attempt to domesticate them. He believed bison were the best animal for the North American environment. Walking Coyote's reasons behind capturing the calves, as outlined in a well-reported legend, was to present them as a gift to appease the priests at St. Ignatius over the problems of his second, illicit, marriage.[187] None of these efforts can be classified as preservationist. In each case, the captured buffalo calves were fed domestic cow milk to sustain them on the journey back to the respective ranches. Once there, buffalo calves were adopted by domestic cows and reared in captivity. In the case of the McKay-Alloway, Dupree, and Goodnight herds, crossbreeding between the buffalo and domestic herds resulted when the two species ranged in enclosures together. It is unclear whether Jones, who captured the most calves (fifty-six), grazed his buffalo with cattle, but it is probable that he did as he was very interested in crossbreeding. Proof of this interest is his 1889 purchase of Colonel Samuel Bedson's herd from Stony Mountain, Manitoba, which consisted of both purebred and hybrid buffalo.[188]

Of significance to Buffalo National Park, the Pablo bison herd was raised in captivity and treated like domestic cattle in the same manner as the first five efforts to save the buffalo. The famous herd owned by Charles Allard and Michel Pablo had its origins in the buffalo calves captured by Samuel Walking Coyote. When the ranchers purchased the herd in 1883, the number of buffalo had increased to twelve animals.[189] The herd continued to increase on its new range in the Flathead Valley and by 1896, the year Allard died, it numbered approximately 300 animals. Allard's half of the herd was dispersed amongst his wife and children and sold to various buyers.[190] Pablo continued to graze his buffalo until the United States government implemented the Dawes Act in the Flathead Valley, in 1904. In this year, tribe members were allowed to select a homestead of 160 acres and the remainder was opened for settlement.[191]

---

[187] Coder, 1-45. For a detailed account of the oral traditions that exist concerning the events surrounding the procurement of Walking Coyote buffalo calves, see Bon I. Whealdon and others, *I Will Be Meat for My Salish: The Montana Writers Project and the Buffalo of the Flathead Indian Reservation* (Pablo: Salish Kootenai College, 2001), chapters four and five.

[188] The nucleus of Bedson's bison herd started with eight buffalo from the McKay-Alloway, which he purchased in 1880. Coder, 1-45, 61.

In comparison to the earliest private initiatives to save the plains bison, the Pablo-Allard buffalo herd, at first glance, appears to have been managed largely without domestication tendencies. The herd was considered to be the last free-roaming plains bison herd on the continent – a factor that drove the interest of the Dominion government to purchase the animals. When examining the herd in June 1906, Howard Douglas, superintendent of Rocky Mountains Park, was impressed with how the herd had flourished under natural conditions. The range on which the buffalo grazed was not fenced. Rather, the herd was contained in the Round Butte area by natural barriers. "On the east were the majestic Mission Mountains, on the north was the Flathead Lake, and on the south lay the Jocko Valley."[192] The herd also followed annual movements: it grazed in the valley in the summer and migrated across the Pend d'Orielle River[193] to the mountains for the winter. The herd was never supplemented with hay, and Douglas was pleased to find that Pablo "never gave any attention to the herd, and they [had] increased without any effort on his part."[194] This notion that the herd required low maintenance was substantiated by a 1902 article in *Forest and Stream*. The author stated that although Pablo had "buffalo herders" to keep the herd within the range, they had little work to do but watch it.[195]

---

[189] Coder uses the date 1883 based on the fact that Pablo recollected that the herd was purchased in the same year that the Northern Pacific Railway went through Ravalli. Coder, 22. However, other accounts claim the year to be 1884. See Whealdon, 82. The number of buffalo bought by Pablo and Allard is also not consistent in different accounts. Coder considers the figure twelve to be most accurate because this was the number of buffalo that Pablo stated were purchased in a letter to F. C. Morgan in 1910. Coder, 22, 56.

[190] Charles Allard's wife sold her portion of the estate to Charles E. Conrad of Kalispell. Howard Eaton also purchased some buffalo from Allard's estate. A portion of these were later bought by Donald A. Smith, Lord Strathcona, and presented to the Dominon government. Whealdon, 87.

[191] Lott, 188 and "Flathead Reservation Timeline," *Montana Heritage* Project, 2004 <http://www.edheritage.org/flathead/timelineflathead.htm> (14 June 2004).

[192] Coder, 22.

While the Pablo-Allard bison-saving effort appears to have been less intrusive when compared to the other five individual initiatives, on closer investigation it becomes clear that this herd experienced just as much intervention as the others. Its management can hardly be considered much different from that of domestic range cattle. Given that both Allard and Pablo were successful ranchers, however, it should not be surprising that the buffalo herd was influenced by this type of management. That the management of the Pablo herd had been similar to that of range cattle became clear to Douglas in 1906 when he noticed, on inspecting the herd, that there were fifty buffalo steers among the 300 head.[196] An incident in 1923 was also a clue that this type of management had been practised. That year, when an aged buffalo steer was slaughtered, an ear tag bearing the number "75" was discovered.[197] This discovery was not an isolated incident. In 1932, two more ear tags, numbers "39" and "79," were discovered when two buffalo from the original Montana herd were slaughtered.[198] A. G. Smith stated that a number of the old bulls sported a slit in one of their ears, which suggested that at one time a number of them had been tagged in a similar fashion.[199]

---

[193] Douglas wrote that the buffalo migrated across the Pondera River. This is a misspelling of the Pend d'Orielle River, which is now called the Flathead River.

[194] NAC, RG 84, Vol. 51, File U209, pt. 1, Howard Douglas to the W. W. Cory, 15 June 1906.

[195] Whealdon, 86.

[196] NAC, RG 84, Vol. 51, File U209, pt. 1, Howard Douglas to the W. W. Cory, 15 June 1906.

Did Allard and Pablo purchase the herd with the intention of saving the species from extinction? Allard, described as an aggressive, farseeing, and shrewd businessman, seems to have been interested in profiting from the animals. While it is not clear which of the two ranchers negotiated with Samuel Walking Coyote for his buffalo, knowledge of Allard's personality has led most historians to believe he initiated the sale.[200] The suggestion that Allard's motives behind securing the herd were based on knowledge of their value as a financial investment is substantiated by the fact that he continued to purchase additional buffalo, including the 1893 purchase of twenty-six purebred buffalo and eighteen hybrids from C. "Buffalo" Jones.[201] Furthermore, Allard also took pleasure in displaying his buffalo; he took some to Butte, Montana to an exhibition on "wild west riding sports" and had planned to take some to Chicago's World Fair.[202]

---

[197] In 1923, the Parks Branch was unable to determine whether the steer originated from the Pablo herd, the Conrad herd, or if it was a member of the herd donated by Lord Strathcona to Banff. However, since the animal was a steer, it is plausible that it was of Pablo stock, either from Pablo's herd or the Conrad herd, which itself was made up of animals from Pablo-Allard buffalo herd. NAC, RG 84, Vol. 51, File BU209, pt. 3, Letter to Howard Douglas, 5 Mar. 1923 and A.G. Smith to Commissioner, 21 Feb. 1923.

[198] NAC, RG 84, Vol. 58, BU299-2, pt. 1, R. Waddy to Veterinary Director General, 21 Jan. 1932.

[199] NAC, RG 84, Vol. 51, File BU209, pt. 3, Letter to Howard Douglas, 5 Mar. 1923 and A.G. Smith to Commissioner, 21 Feb. 1923.

[200] Whealdon, 86.

[201] Coder, 39.

[202] Whealdon, 86.

While Pablo, too, is described as a successful rancher, his motives seem to have been more altruistic than Allard's. Tony Barnaby, Pablo's son-in-law, described Pablo as indebted to what he felt was owed to the species.[203] His love for the animals was evident when he realized that he would be forced to sell his portion of the herd. When he was unable to persuade the United States government to buy the herd and protect them, Burnaby stated Pablo was "moved to manly tears."[204] Other evidence that Pablo approached management of the herd differently from Allard can be seen when one compares how the two partners marketed the herd. While buffalo had been sold from the herd in many small and some large sales, Whealdon believes these sales were negotiated by Allard since there is no evidence even after Allard's death that Pablo sold any of his bison before he was forced to by the government's decision that his grazing land was to be opened for settlement.[205] The extra effort and expense that Pablo put towards shipping his herd to Alberta should also be seen as sufficient proof that his goal was not profit. He built additional corrals out on the range and fifty horse-drawn cages in order to transport the buffalo that were unwilling to be driven to Ravalli, where the rail cars were located. Douglas noted the huge personal expense that Pablo undertook: "only those who know from personal experience what a huge undertaking [rounding up buffalo] is, will ever credit him with the plucky fight he has put up, and the enormous expense incurred, which I should say would be about half what he is getting for the herd."[206]

---

[203] Tony Barnaby stated that Pablo "did not consider a buffalo as just a great shaggy beast of the plains; but rather as symbolic of the real soul of the Indians' past… the buffalo had always been the greatest benefactor of the Indians…now Pablo, a red man, would repay the race's Karmic debt. He would protect the mighty monarch and provide the remnant a secure paradise in the Valley Sin-yel-e-min." Whealdon, 83-84.

[204] Whealdon, 84.

[205] Whealdon, 84, 86, 87.

The Dominion government intended to preserve the plains bison. One of the most important factors contingent on the government's purchase was that the bison be deemed purebred. Even when the threat of competition for the purchase of the herd was imminent, specifically in 1907 when the American Bison Society had made their intentions known to purchase all the remaining buffalo in the United States, W. W. Cory, deputy minister of the interior, wrote "under the circumstances I have thought that it might be well to wire at once to Mr. Douglas, instructing him to place himself in communication with Mr. Pablo immediately and close the bargain for the purchase of his herd provided he is satisfied that the animals are thoroughbred."[207] It was also important that the herd be free from disease, and declared so by a veterinarian.[208] Although it is unclear what types of disease were looked for during inspection, mange was one of the diseases detected on the buffalo of the second shipment; it was treated under veterinary supervision.[209]

Yet, despite adherence to these initial principles at the purchase, the effort at Buffalo National Park evolved, unsurprisingly, from one which focused on the preservation of the bison to one more concerned with the efficient use of the animals as a resource. Clearly, it was impossible to reestablish the plains bison in the natural conditions that the species had once enjoyed. Despite the fact that the area set aside south of Wainwright was a vast amount of territory, comprising 100,000 acres, settlement surrounded the park area; this development necessitated that the park be fenced. Yet one can certainly understand why the scheme to preserve buffalo in this park was considered plausible. The area was one of the larger areas available. However, given the settlement and development of the West that had taken place in the latter half of the nineteenth century, the plans to preserve the species in their natural state in the midst of a settlement frontier were unrealistic.

---

[206] NAC, RG 84, Vol. 51, File BU209, pt. 2, Pablo to W. W. Cory, 18 Nov. 1908 and Howard Douglas to W. W. Cory, 11 Nov. 1909.

[207] NAC, RG 84, Vol. 51, File BU209, pt. 1, Memorandum from W. W. Cory, 25 Jan. 1907.

[208] NAC, RG 84, Vol. 51, File BU209, pt. 1, Howard Douglas to W. W. Cory, 14 Oct. 1907. Insuring that the buffalo were free from disease would also have been a stipulation necessary in order that the animals could gain clearance through customs and cross the international boundary.

[209] NAC, RG 84, Vol. 51, File BU209, pt. 1, Howard Douglas to W. W. Cory, 14 Oct. 1907.

While the Dominion government boasted that altruistic intentions drove its motivation to acquire the Pablo herd, essentially, the government, in the same vein as all the prior bison saving efforts, became involved in managing a large ranching effort. In the early years, the dominant concern of the government was to ensure that the population of the bison increased. With their emphasis on population increase, the Parks Branch and park administration gave little attention to how an increasing population would affect other aspects of the bison preservation effort. Within the first decade of the establishment of Buffalo National Park, the bison numbers increased so rapidly that park officials were forced to find some way to make the buffalo herd profitable so as to help defray the costs of running the park. Thus, by the 1920s, park officials found it necessary to cater to a second, larger mandate.

The fact that the bison herd at Buffalo National Park was managed more like a ranch than a wildlife preservation effort[210] can be attributed more to the experience of those implementing the effort than to any other reason. All those administering the effort and those consulted for advice on the management of the herd were familiar with and/or had knowledge of agricultural management methods. Howard Douglas[211] was the man who spearheaded and oversaw the purchase of the buffalo and the establishment of Buffalo National Park. While his keen business sense, made apparent at the time of the purchase, can be traced to his experience of owning a general store and coal and wood company, he also had a background in agriculture. He was raised on a family farm in Halton, Ontario where he worked until he was twenty-one.[212] The individual who was perhaps the most significant in terms of implementing policy that affected management of the herd was J. B. Harkin.[213] He was appointed commissioner of the newly formed Parks Branch in 1911, and was the most influential individual in the administration of the national parks system. Harkin's background was primarily in politics. He was a newspaperman, a parliamentary correspondent, and later a private secretary to ministers of the interior, Clifford Sifton and Frank Oliver. While it appears that Harkin had little agricultural experience, Alan MacEachern argues that Harkin should not be solely credited with conceptualizing national parks policies. He argues that policies attributed to Harkin were often drafted by his assistants and, thus, his beliefs were more a reflection of the beliefs of the Parks Branch as a whole.[214] Hoyes Lloyd, administrator of the Migratory Bird Regulations at the Parks Branch, was one assistant whom MacEachern names as drafting policy for Harkin. Trained as a chemist, Lloyd had experience in the agriculture sector. He had worked closely with veterinarians and milk inspectors to eradicate the problem of Bovine Tuberculosis, a condition that posed a danger to Ontario's milk supply.[215] It is also clear from correspondence found in the Buffalo National Park files that Harkin often consulted Maxwell Graham, chief of park animals, for his opinion. Graham was trained at Ontario's Agricultural College in Guelph and farmed for six years before moving to Ottawa.[216]

---

[210] It should be noted that the very idea of "managing" something wild is paradoxical, if not contradictory.

---

[211] Howard Douglas was superintendent of Rocky Mountains Park from 1897 to 1912.

[212] Janet Foster, 55.

[213] J. B. Harkin was commissioner of the Parks Branch from 1911 to 1936.

[214] Alan MacEachern, *Natural* Selections, 29.

Those working most closely with the buffalo at the local park level were also familiar with agricultural life. While little is known about Superintendent A. G. Smith's credentials, the wardens and Park Riders all had ranching experience. Bud Cotton, long-time warden at the park, moved from Sherbrooke, Quebec when he was sixteen and worked as a cowpuncher on some ranching operations in Southern Alberta before he started at Buffalo National Park in 1913.[217] Of his Park Riders, Cotton stated: "All…had handled cattle and knew ranch routine, from branding to round-up."[218] Since the work of a Park Rider was seasonal, many had their own operations, which they tended to when not working at the park.

In the 1910s, little was known about wildlife science. Graham MacDonald argues that it was not until the 1930s that the habits of species and how they interacted with other species and the environment began to be considered important in wildlife management. Prior to this time, wildlife management simply aimed to distinguish one species from another.[219] Since little knowledge existed about wildlife, the department turned to sources knowledgeable in domestic animal management. The Parks Branch relied heavily on the Department of Agriculture for advice on managing the buffalo. This government department had a direct link to this park, especially after the inauguration of the cattalo experiment in 1916. Officials in the Department of Agriculture were frequently consulted regarding their opinions on different policies and the health of animals.[220] Furthermore, advice was often sought from the local veterinarian in Wainwright regarding maintenance of the herd, whether it be to diagnose sick animals or to perform post-mortems.[221]

---

[215] Janet Foster, 159.

[216] Janet Foster, 97.

[217] E. J. (Bud) Cotton, 6-70.

[218] Bud Cotton, "Range Riding with Canada's Buffalo Herds," Unpublished Manuscript, personal collection of Adeline Schleppe, n.d.

The structure and organization of Buffalo National Park also took on other trappings of a domestication effort. When it was decided that Elk Island Reserve was unsuitable for buffalo, the preparations for the new park at Wainwright seem as though they were modeled on a big ranch operation. Howard Douglas made arrangements for a "house for [a] caretaker, corralls, stables, horses, and saddles for Winter of 1908 & 1909."[222] The park farm, located in the southeastern portion of the park, oversaw all the agricultural operations. It had a "[p]ermanent farm staff, including the Park supervisor, one park warden, blacksmith's handyman, barn worker and six teamsters." Employees were assigned to various duties, including repairing fences, plowing miles of fireguards, harvesting crops in the summer months and hauling hay to the buffalo in the winter. The park was self-sufficient in that it grew its own crops to feed the buffalo:

---

[219] MacDonald, 31.

[220] Dr. S. E. Clarke, assistant agrostologist, Dr. Frederick Torrance, veterinary director general, Dr. Hargrave, inspector, are examples of professionals from the Department of Agriculture who were consulted on matters pertaining to Buffalo National Park.

[221] For example, Stan Wiley, the local veterinarian, was often called on to attend to the buffalo herd. Herb Dixon, grandson of Herb Walker, park farm superintendent, personal interview, 12 Feb. 2004.

[222] NAC, RG 84, Vol. 51, File U209, pt. 1, Howard Douglas to the W. W. Cory, 22 Oct. 1907.

> Six hundred acres were farmed in grain, grass and legume rotation…Usually 300 to 400 acres of oats were grown, rotated each year with 40 to 50 acres of sweet clover for fertility and hay and 100 to 150 acres of grass for soil fiber and hay. The oats supplied grain and oat straw.…One of the main summer activities of the park farm staff was cutting and stacking approximately 1,500 tons of hay during July to September. Hay was obtained from the floodable meadows along the Ribstone Creek. These meadows were either flooded naturally or could be flooded manually each spring ensuring a good stand in high quality hay each year.[223]

Even the everyday operations and care for the buffalo also referenced known agricultural methods. Maxwell Graham considered ranching techniques to be the best way to care for buffalo. He recommended that the local employees adhere to "methods pursued by intelligent ranch owners, …which consist[ed] mainly in close observation of the herd and supplying of necessary rock salt, watching for fever ticks, and above all segregation of those animals who appear diseased."[224] Adherence to this type of management meant that from early on, the herd was continually subjected to human intervention. Given that the buffalo were quite unruly and the implementation of any practice was considered dangerous work, it was in the best interests of those working with the buffalo that the herd be domesticated. In 1913, a scheme to passify the herd was enacted. Bernard Hervey, chief superintendent of national parks, recommended that Park Riders ride among the herd on a daily basis and practice cutting a few animals out of the herd so that the buffalo would become familiar with this routine. "Conditions are exactly the same with ranche cattle," he stated, "but by usage of seeing mounted men continually amongst them they soon learn that they are there for their protection and will not molest the riders who sought to save one of their number in distress."[225] While it is unclear how long this practice continued, it is clear that the buffalo continued to be handled as cattle given that the herd was driven at least twice a year, from the summer range, an enclosure that comprised most of the park, to the winter quarters, a smaller range in the southern portion of the park where the buffalo were sustained on hay during the winter months.[226] Furthermore, that the population of the herd was also tabulated on an annual basis would have required a handling of the herd.[227]

---

[223] Treffry.

[224] NAC, RG 84, Vol. 53, File BU232, pt. 1, Maxwell Graham to J.B. Harkin, 3 Aug. 1912.

In the early years of this preservation effort, implementation of a management policy based on ranching methods would not have been considered an interference, but rather a method in line with the predominant management philosophy governing wildlife preservation efforts in this era: increasing the population of the herd. An emphasis on increasing the population of the Pablo herd had been inherent from the time of the purchase. Even though the Dominion government had secured 410 buffalo after the second shipment, they were persistent in acquiring more.[228] Howard Douglas insisted that the government obtain all the animals the contract called for, less the ten cows and two bulls that Pablo wished to keep for himself.[229] This drive to acquire the rest of Pablo herd can perhaps be attributed to a nationalistic motive since many Americans became interested in purchasing buffalo from the herd when deal was made public.[230] However, the concern over maintaining a proper sex ratio, determined to be two cows for every bull, is proof that increasing the population was considered of utmost importance from very early on.[231] Careful records were kept of the sex and age of animals shipped from Montana. It was believed that sex ratio had a direct influence on the rate of the herd's propagation.[232] The adult stock from the first shipment to Elk Island, for example, consisted of 101 bulls, eighteen steers, and forty-seven cows. Of the second shipment, Douglas was pleased that the majority of the animals were female stock (169 of 211 head) since "it would place the herd now in Elk Island Park on a much better basis than it was after the first shipment." "I might add," he continued, "that the cows are all prime young stock and increase in the next few years should be very satisfactory."[233] The same idea is echoed again in 1912. Maxwell Graham seemed to attribute the lack of increase in the buffalo herd to an improper ratio. He stated, "from our records here it would appear that approximately over ½ of the entire buffalo herd, now in our Parks, consists of males, and further that more than 1/6 of these males are absolutely aged[;] this will probably explain why the natural increase had not been more than it has in the past."[234]

---

[225] NAC, RG 84, Vol. 53, File BU232, pt. 1, P. C. Bernard Hervey to J. B. Harkin, 10 May 1913. J. B. Harkin, on hearing of the practice, discouraged the procedure during calving period because he did not want to excite or harass expectant mothers. NAC, RG 84, Vol. 53, File BU232, pt. 1, J. B. Harkin to P. C. Bernard Hervey, 20 May 1913.

[226] NAC, RG 84, Vol. 50, File BU38, pt. 1, "Buffalo Park," circa 1926. NAC, RG 84, Vol. 54, File BU232, pt. 4, J. B. Harkin to A. M. Comsia, 4 May 1935.

[227] For example, NAC, RG 84, Vol. 53, File BU232, pt. 1, 25 Mar. 1911.

[228] NAC, RG 84, Vol. 51, File BU209, pt. 1, Lyndwode Pereira to Frank Oliver, 6 Nov. 1907.

[229] NAC, RG 84, Vol. 51, File BU209, pt. 1, Howard Douglas to W. W. Cory, 1 Mar. 1907.

---

[230] NAC, RG 84, Vol. 51, File BU209, pt. 1, Howard Douglas to W. W. Cory, 30 Jul. 1907.

[231] In later years, Dominion park officials stated that the proper ratio of bison had been determined by the Department of Agriculture in the United States. NAC, RG 84, Vol. 53, File BU232, pt. 2, J. B. Harkin to W. W. Cory, 3 Nov. 1919 and Maxwell Graham to George Rothwell, 4 July 1921.

[232] NAC, RG 84, Vol. 51, File BU209, pt. 1, Howard Douglas to W. W. Cory, 11 June 1907and Howard Douglas to W. W. Cory, 22 Oct. 1907.

[233] NAC, RG 84, Vol. 51, File BU209, pt. 1, Howard Douglas to W. W. Cory, 11 June 1907 and Howard Douglas to W. W. Cory, 22 Oct. 1907.

[234] NAC, RG 84, Vol. 53, File BU232, pt. 1, Maxwell Graham to J. B. Harkin, 3 Aug. 1912. The purchase of the Conrad herd in 1910 might be seen as contradictory to the evidence presented above. While the

An adherence to this policy of maintaining a proper ratio led to an even greater control of the breeding stock of the herd. By 1914, park officials began to express concern over the improper sex ratio since it was believed that that herd possessed too many bulls.[235] Thus, the department embarked on a policy by which only bulls were disposed of. The department became involved, in a sense, in selecting which animals and characteristics would be used for breeding purposes. While this practice raises the broader issue of gene selection, which is too complex to address fully in this thesis, it is important to note that such decisions contributed to domestication. While bulls that were injured or considered to be of old age and no longer useful were disposed of,[236] the selection of particular bulls also determined the docility of the herd. "Bolivar," an older buffalo, was disposed of in 1918 more for his bad temper than his physically unfit condition. He was described as being "of the genuine wild beast variety…and absolutely refuse[d] to be frightened, controlled or subdued."[237] Indeed, the department seemed interested in breeding more docile buffalo. But the department began to explore the practice of selective breeding for other reasons as well – to improve the quality of beef and fur. While the herd was never healthy enough in later years to implement a full fledged policy, in 1932, A. G. Smith, reflecting on the management of the herd, stated:

---

government made it clear that it did not wish to add more buffalo to the park, it purchased some of the Conrad buffalo in order to add new blood to the herd. However, it is likely that the apprehensiveness expressed was based on financial considerations. Yet, it is clear that increasing the population of the herd was still in the forefront, evident by the fact that they were concerned about obtaining more cows than bulls.

[235] In this year, the composition of the herd was 500 bulls and 476 cows. NAC, RG 84, Vol. 53, File BU232, pt. 1, Letter to Dr. Frederick Torrance, 10 Mar. 1914.

[236] NAC, RG 84, Vol. 53, File BU232, pt. 1, Letter to P. A. Taverner, 6 Dec. 1915.

[237] NAC, RG 84, Vol. 53, File BU232, pt. 1, "Buffalo Herd is Thriving," *Rocky Mountain Courier*, 22 Feb. 1918.

> the thought of selective breeding is not a new one with us as for a number of years we have carried on with this idea in mind....
>
> It has been our policy each slaughter when the animals are being put through the corrals for the purpose of selecting beef stock to discard the weaklings and undesirable breeders from the herd, both male and female, and hold for breeding stock animals of good type and appearance.[238]

It did not take long for the department to achieve its goal of increasing the buffalo herd. The herd increased, and rapidly, and this growth was considered evidence of a successful preservation effort. Gordon Hewitt, the Dominion entomologist, praised the population increase:

> [u]nder these eminently natural conditions the buffalo have increased annually. In the spring of 1913 the numbers had increased to 1,188 head; a year later there were 1,453 buffalo. When I visited the buffalo park in 1915 there were over 2,000 buffalo. In June, 1919, the herd had increased to 3,830 animals. In other words, there are at the present time in the Buffalo Park at Wainwright, Alta., under the care and protection of the Canadian Government, more buffalo than existed on the whole North American continent eight years ago, and by far the largest herd of buffalo in existence.[239]

Newspaper headlines began to boast that Canada had the largest herd of buffalo in the world.[240] While utilitarian motives were not the prime concern when the bison were first purchased, as the herd grew, commercial values became increasingly important. For example, by 1916, when the herd numbered 2,381 head, the value of the herd was estimated at $714,000. With a herd deemed this valuable, officials believed that the Buffalo National Park effort had recouped the cost of establishing the park twice over.[241]

---

[238] NAC, RG 84, Vol. 54, File BU232, pt. 4, A. G. Smith to J. B. Harkin, 6 Sept. 1932.

[239] C. Gordon Hewitt, *The Conservation of the Wildlife of Canada* (New York: Charles Scribner's Sons, 1921), 135.

[240] For example, NAC, RG 84, Vol. 53, File BU232, pt. 1, "Canada's Big Buffalo Herd," *Toronto Telegram*, 30 June 1916.

[241] The amount expended on the effort was $361,974.36 inclusive of all buffalo purchases and the cost of building the park. It is interesting that officials based the value of the buffalo at $300 per head. This

However, the rapid increase of the herd in such a short span of time meant that the cost of maintaining the effort was also becoming more expensive. The necessity to begin recouping the huge expenditures that had been spent on the effort was made clear by Harkin in a letter to Maxwell Graham in 1916: "…sentiment alone will not be sufficient to hold public opinion with us in the matter of very large expenditures upon the buffalo here when the people of the country are not getting any clearly tangible benefit therefrom."[242] While the management of the bison had become very costly, and the park was in need of revenue, park officials never charged visitors any admission fee.[243] Their attempt to commercialize the herd would be sought by other means.

When it became necessary to dispose of some of the older and crippled bulls, it was done in the most profitable way. The department waited until winter in order that the meat "might profitably be sold to the public around Christmas time" and the robes would be prime.[244] Certainly, disposing of the buffalo at this time would have been seen as an acceptable practice – even accountable – since the best use was being made of the animals. However, by 1920, the population of the bison herd had increased to the point of endangering the effort altogether. Since the capacity of the park range had been judged to be 5,000 head,[245] the herd was dangerously close to outgrowing the park. Thus it became necessary to reduce the herd by disposing of otherwise healthy animals.

---

amount was an increase in value from the $200 the Dominion government paid to Pablo for each buffalo four years prior. NAC, RG 84, Vol. 53, File BU232, pt. 1, Courtice to J. B. Harkin, 13 Nov. 1916.

[242] NAC, RG 84, Vol. 53, File BU232, pt. 1, Memorandum to Maxwell Graham, 17 Jan. 1916.

[243] NAC, RG 84, Vol. 982, File BU2[548608], pt. 4, for example, F. H. H. Williamson to William Flemming, 29 Aug. 1940.

[244] NAC, RG 84, Vol. 53, File BU232, pt. 1, Letter to P. A. Taverner, 6 Dec. 1915.

[245] NAC, RG 84, Vol. 50, File BU217, pt. 1, Memorandum to J. B. Harkin, 15 Feb. 1933.

However, because the preservation effort itself was in jeopardy, the department was forced to dispose of the buffalo in ways that defied the very principles that it had enunciated at the beginning of the effort. While the buffalo herd was considered valuable from the beginning, it was never the intent of the department to use it for a commercial venture. However, with the effort becoming more costly and over-population threatening the very existence of the park, the department soon found itself involved in the full-fledged business of ranching buffalo.

While outright commercialization of the herd was never officially endorsed, it occurred nevertheless because there seemed no other acceptable means to reduce the herd. By 1919, officials believed that Buffalo National Park had an excess of 1,000 bulls.[246] The department first looked to zoological collections and bonafide museums in the United States and Canada as suitable outlets for the disposal of the buffalo.[247] While there seemed to be some interest in securing specimens for mounting purposes, it is unclear from the department records if bulls were ever purchased. However, there was no interest in securing any live bulls.[248] One of the main reasons for this lack of interest, made clear by William Hornaday, director of the New York Zoological Society, was that the $250 that the Parks Branch was asking for the buffalo was too high. He informed them that the market was already saturated with buffalo in the United States, and that the prices for both buffalo bulls and cows, specifically in the east, had dropped by fifty percent.[249] Given that there was little market to dispose of live bison, other avenues, such as establishing other buffalo parks on the Prairies with the surplus, were suggested.[250] However, these schemes, while palatable in terms of preservation, were often accompanied by an even greater financial obligation that the department was not in the position to entertain.

---

[246] NAC, RG 84, Vol. 53, File BU232, pt. 2, J. B. Harkin to W. W. Cory, 3 Nov. 1919.

[247] NAC, RG 84, Vol. 53, File BU232, pt. 1, Maxwell Graham to J. B. Harkin, 1 Apr. 1919. It appears from this file that the Parks Branch only contacted two museums regarding the disposal of excess buffalo: the museum under the direction of the Buffalo Society of Natural Sciences in Buffalo, N.Y., and the American Museum of Natural History in New York. However, the department contacted several zoological parks.

[248] Some organizations inquired into purchasing a buffalo cow, but the department was unwilling to dispose of females at this time. NAC, RG 84, Vol. 53, File BU232, pt. 1.

The department began to breach the principles upon which the effort was built, and undermined the saving of the species, when it sought to consider other, more profitable, means of disposing of the overpopulated buffalo herd. The proposition of allowing sportsmen to shoot buffalo, and thereby bring in substantial revenue, was never entertained because it was believed that it would invite too much criticism.[251] However, one avenue that was explored was selling excess buffalo bulls to interested farmers and ranchers. Initially, this scheme seemed to have gained approval from the Parks Branch. Not only would the buffalo tangibly benefit Western Canadians, but it was believed that buyers would be more than willing to purchase a bull for $250, making this one of the easiest ways by which to recoup some revenue.[252] While the scheme never came to fruition, consideration of this suggestion marks the moment when the Parks Branch began prioritizing profit over preservationist principles. Gordon Hewitt, Dominion entomologist, endorsed the scheme and argued that farmers should be allowed to benefit from the value of the buffalo:

---

[249] NAC, RG 84, Vol. 53, File BU232, pt. 1, William Hornaday to J. B. Harkin, 22 Sept. 1919.

[250] Hewitt, 136.

[251] NAC, RG 84, Vol. 57, File BU299-1, pt. 1, J. B. Harkin to W. W. Cory, 21 Nov. 1922.

[252] NAC, RG 84, Vol. 53, File BU232, pt. 2, J. B. Harkin to W. W. Cory, 3 Nov. 1919.

> The greatest value of the buffalo…lies in the possibility of its domestication. This may appear to be a novel idea, but I am convinced that its acceptance and adoption would result in inestimable benefit to the Prairie Provinces and the country as a whole. The greatest need in the Prairies Provinces is an increase in its beef-producing capacity. The buffalo is an animal which offers great possibilities, being pre-eminently suited to prairie conditions, and at the same time it produces a robe of no small commercial value.[253]

Naturally, the Department of Agriculture was very much in favour of making the buffalo beneficial for a different reason. Dr. Tolmie, minister of the department of agriculture, suggested that the selling of buffalo to farmers and ranchers would be the way to test crossbreeding experiments between buffalo and cattle under practical conditions. While he thought that obstacles encountered in crossbreeding that had been discovered up to this point needed to be made clear to purchasers, he also believed that private trials would contribute to the findings being produced at the Experimental Farm because trials would "give to many ranchers in the section an opportunity of experimenting under practical ranch conditions."[254]

Maxwell Graham's enthusiasm for the crossbreeding scheme surpassed even these suggestions with his proposal that a cyclical system be concocted that would not only recoup the costs of disposing of surplus buffalo, but also, in the long-term, place the herd on a "revenue basis." Once the correct ratio of the herd was maintained in the park, all breeding females could be "placed with half their number of *selected* bulls" in one area, the rest of the "young stock" not yet in a breeding position in second area, and steers and cows not selected for breeding placed in a third subdivision for the purpose of beefing them. He believed that "[b]y following the above practice the increase of the herd will yield a steady revenue, while the total increase of breeding stock will be very gradual." In this way, he argued, the "perpetuation of the bison would be assured" to a much greater degree but by private citizens rather than the parks system.[255]

---

[253] Hewitt, 136.

[254] NAC, RG 84, Vol. 53, File BU232, pt. 2, S. F. Tolmie to J. B. Harkin, 19 Nov. 1919.

It is surprising that the government never pursued the idea of selling buffalo to ranchers and farmers, especially since, in the mid-1920s, Yellowstone National Park had implemented a policy of donating buffalo, at the cost of capturing and crating, to people who made applications.[256] While the Parks Branch initially seemed to be in favour of the idea, there were three reasons given why this proposal was not pursued. First, the department was wary about allowing buyers to carry on their own crossbreeding experiments.[257] Second, the distribution of buffalo to private individuals would render difficult the protection of the park herds from poachers.[258] These reasons, however, masked a third and greater reason why the Parks Branch objected to distributing buffalo among local farmers and ranchers: In Harkin's words, it would deprive "the Department of the virtual monopoly it now enjoys in the possession of the herd of bison administered by this Branch in our National Parks."[259] It appears that the Parks Branch viewed the surrender of the monopoly as a forfeiture of future revenue; because the buffalo were deemed valuable, the department had second thoughts about allowing any others the opportunity to profit from them when the possibility existed that the park could benefit more by disposing of the animals themselves. W. W. Cory was not in favour of selling buffalo to individuals because he thought that they would only purchase them so that they could profit from the heads and hides.[260] Harkin echoed this sentiment as well: "[w]e naturally want to dispose of them to the best advantage for the country and the heads and hides of course have a definite value."[261] To distribute buffalo to local ranchers would render the buffalo commonplace and leave the department unable to gain as much by commercializing the herd. With 1,000 bulls to dispose of in 1919, the department realized that if "the highest prices for meat, heads and hides," could be achieved, "the sum would be considerable."[262]

---

[255] NAC, RG 84, Vol. 53, File BU232, pt. 1, Maxwell Graham to J. B. Harkin, 17 Oct. 1919.

[256] NAC, RG 84, Vol. 53, File BU232, pt. 3, Hoyes Lloyd to J. B. Harkin, 8 Apr. 1926.

[257] NAC, RG 84, Vol. 53, File BU232, pt. 2, Maxwell Graham to J. B. Harkin, 17 Dec. 1919.

[258] Harkin believed poaching would be a threat if buffalo were sold to farmers and ranchers. Disposing of buffalo to private individuals would mean the department would relinquish the monopoly it had on the buffalo in Canada. Thus, it would be impossible to know if a buffalo robe came from the park or a private herd. NAC, RG 84, Vol. 53, File BU232, pt. 2, J. B. Harkin to W. W. Cory, 22 Nov. 1919.

[259] NAC, RG 84, Vol. 53, File BU232, pt. 2, J. B. Harkin to R. A. Gibson, 13 Oct. 1920.

Initially, the growth of the herd to a size where it could yield a profit was seen as praiseworthy news, perhaps indicative of how closely the concepts of preservation and utility were linked. However, it is clear by the department's enthusiasm over the prospect of the possible financial benefit of the herd that the motive of saving the plains bison from extinction had now changed to profiting from a natural resource. In 1921, Harkin boasted, "[t]he numbers have been increasing so rapidly that we have been compelled to look toward – I might almost say – the commercialization of the herd…what we have started off to do from a purely sentimental standpoint may prove to be a valuable commercial proposition."[263] Even newspapers were boasting of the profit potential realized by the preservation effort. One stated that "[t]he salvation of these animals is an example of the profits that accrue from the conservation of the natural resources of a country....the government's foresight in purchasing the remaining animals now promises to bear fruit."[264]

---

[260] NAC, RG 84, Vol. 53, File BU232, pt. 2, Maxwell Graham to J. B. Harkin, 17 Dec. 1919.

[261] NAC, RG 84, Vol. 53, File BU232, pt. 2, J. B. Harkin to W. J. Blair, 23 June 1920.

[262] NAC, RG 84, Vol. 53, File BU232, pt. 1, Maxwell Graham to J. B. Harkin, 29 Sept. 1919.

[263] NAC, RG 84, Vol. 53, File BU232, pt. 3, "Some Facts About Growth of Canada's Fine Buffalo Herd," [Irma] *Times*, 21 Oct. 1921.

While the government wished to tap into the potential value that the herd promised, it took too long deliberating over the proper way in which to realize this wealth. One reason for this ambiguous approach was the nature of the effort itself. Because Buffalo National Park was initiated and promoted as a preservation effort, officials had to be careful to deal with the over-population problem in a way that would not alienate the public. But the more important reason why the government took a more cautious approach was that it wanted to ensure that the buffalo products, of which the most important was the meat, were marketed properly. It was clear when the department finally considered slaughtering bison for food purposes in 1918 that the disposing of excess buffalo was going to be a long-term problem. Since only bulls were to be disposed of in the beginning, Harkin was concerned that meat not be "black-eyed": "We have to look forward to the development of a buffalo meat trade as a high priced one and of course we cannot take any chances of damning it at the start by disposing of any meat to the public which would not be attractive."[265]

These tentative approaches to reducing the herd only served to create greater problems. In hindsight, it probably would have been wiser if a commercial policy, even if more controversial, had been followed from the time when it was first realized that the herd needed to be reduced. During the time in which the Parks Branch deliberated on a plan, the herd continued to increase. By 1922, an absolute crisis existed as the size of the herd, which numbered 6,789 buffalo (see Table 2), began to threaten the very existence of Buffalo National Park. The oversized herd threatened the ecological viability of the park and also placed it in financial jeopardy. The need to reduce the size of the herd, and to do so on a revenue-enhancing basis, had become imperative. Thus, the need to commercialize the herd resulted from the reluctance of the Parks Branch to combat the overpopulation problem immediately. With the decision to make the buffalo a commodity came the consideration of money-making schemes that compromised the very principles for which the effort had originally stood. As the need for commercialization increased, so did the impact of management on the herd. By this point the bison, at least in the eyes of the department, were no longer considered wildlife.

---

[264] NAC, RG 84, Vol. 53, File BU232, pt. 3, "Canada's Surplus Buffalo" in *Montreal Herald*, n.d.

[265] NAC, RG 84, Vol. 53, File BU232, pt. 1, J. B. Harkin to A. G. Smith, 29 Nov. 1918.

Table 2: Buffalo Population Census, 1922-32

Year	Number of Buffalo
1922-23	6780
1923-24	6655
1924-25	8267
1925-26	8832
1926-27	6026
1927-28	4241
1928-29	4300
1929-30	5016
1930-31	6231
1931-32	6331

Source: NAC, RG84, Vol. 50, BU217, pt. 1, Memorandum to J. B. Harkin, 15 Feb. 1933.

Belief that commercializing the herd was the only option left to save the effort from financial ruin was made clear by Harkin. In 1922 he stated that

> [T]he government to date has spent a very considerable amount of money for the purpose of preserving the buffalo. Conditions have become such that government can safely market a very considerable number of the animals each year and get a financial return to help pay the bills incurred for the purpose of preserving the animal from extinction. I am inclined to think that public opinion will endorse the idea that commercialization of the herd without interfering with the preservation of the species will be amply justified.[266]

Although it was necessary to dispose of about 1,000 bulls in 1922, no large-scale effort to reduce the herd took place until 1923. The slaughter in 1922 was actually a smaller experiment made in order to test the market for buffalo meat.[267] The reason for the delay can again be attributed to the department's taking great pains to make the bison as profitable as possible. The department felt that the only way to insure revenue from the buffalo meat was to market it as a luxury product: "our only hope for any considerable profit in the disposal of meat," Harkin said, "will be to put it on as a luxury and not in competition with beef."[268] However, it was known that creating a market for buffalo products was going to be difficult and costly.[269] A. S. Duclos, of Edmonton Cold Meat Storage, secured the tender for the slaughter that first year and made it clear that since the slaughter would become an annual practice, it was important that this first experiment profit both the department and the buyer.[270]

Not only did the delay of a large-scale reduction scheme allow the population of the buffalo herd to continue to increase, but the first experimental slaughter of 265 animals produced some roadblocks that proved that it was going to be more difficult to market the buffalo meat than the Parks Branch had anticipated. Since the department needed to get rid of domestic bulls, the biggest question was whether or not the meat would prove to be attractive for consumption. Much like the meat from older domestic bulls, however, all bull meat was found to be tough and unpalatable. As buffalo meat used for a barbeque in Jasper proved, even meat from younger bulls was found to be unsatisfactory.[271] Duclos did his own test on the meat from what was considered an average specimen and took great pains to dress and prepare the meat properly. Even though he let the meat hang for fifteen days and carefully cooked it, it still proved too tough.[272] The toughness of the meat of buffalo bulls posed a huge problem for the department. Not wanting to take any "chances damning [buffalo meat] at the start by offering any tough beef from old bulls,"[273] the department was forced to find other ways to profitably dispose of it. It was found that only 200 pounds of an average 700-pound dressed buffalo bull could be considered choice meat. Rather than risk marketing all the meat, the department had the cuts of poor quality made into pemmican to be used as a trading item in the north.[274]

---

[266] NAC, RG 84, Vol. 52, File BU232-1, pt. 1, J. B. Harkin to Colin C. Moncrieff, 15 Dec. 1922.

[267] NAC, RG 84, Vol. 57, File BU299-1, pt. 1, J. B. Harkin to W. W. Cory, 21 Nov. 1922.

[268] NAC, RG 84, Vol. 57, File BU299-1, pt. 1, J. B. Harkin to W. W. Cory, 21 Nov. 1922.

[269] NAC, RG 84, Vol. 57, File BU299-1, pt. 1, J. B. Harkin to W. W. Cory, 6 June 1922.

[270] NAC, RG 84, Vol. 57, File BU299-1, pt. 1, A. S. Duclos to J. B. Harkin, 20 Sept. 1922.

But a second, unexpected, drawback from this experimental slaughter was that a high percentage of the carcasses, sixty-one of 264, were condemned.[275] This result not only created a setback in the plan to market the meat as a luxury, but also cost the department extra money. The existence of condemned carcasses was overlooked in the contract. However, the dressing of the carcasses that were essentially useless cost just as much as the good carcasses.[276] It is not clear whether or not condemned meat was tested in the experimental year, but in 1923-24 slaughter the meat was condemned on account of disease; thus arose an issue that would cause widespread problems for the park in the future.[277]

---

[271] A four-year-old bull was used for a barbeque in Jasper and found to be very tough. NAC, RG 84, Vol. 53, File BU232, pt. 1, Maxwell Graham to J. B. Harkin, 17 Oct. 1919.

[272] NAC, RG 84, Vol. 57, File BU299-1, pt. 1, A. S. Duclos to J. B. Harkin, 12 Sept. 1922 and 20 Sept. 1922.

[273] NAC, RG 84, Vol. 53, File BU232, pt. 1, Maxwell Graham to J. B. Harkin, 17 Oct. 1919.

[274] NAC, RG 84, Vol. 57, File BU299-1, pt. 1, J. B. Harkin to W. W. Cory, 21 Nov. 1922.

[275] NAC, RG 84, Vol. 57, File BU299-1, pt. 1, Statement of Slaughtering Operations & Shipments.

The decision to commercialize the herd also produced a change in attitude that can be detected in those administering the effort. In the 1920s, with the bison population exploding, the administration apparently believed that the preservation of the species had been achieved and was no longer necessary. Harkin stated, "How to deal with the surplus of the herd animals now constitutes a real and pressing problem. The desirability of preserving the species from extinction is not a factor in this matter as I have already said the maintaining of the present herds [Buffalo and Elk Island] provides the guarantee against extinction."[278] Indeed, the buffalo, in a sense, were treated as livestock from the beginning of the effort. However, as the emphasis of the effort shifted from conservation to commercialization, the adherence to any preservationist ethic moved to the backburner. There was little to stop the administration from striking policies that would provide financial benefit but compromise the very preservation of the species.

In the 1920s, the department implemented some trials of schemes that can only be considered compromising to the integrity of the plains bison. They served to diminish any 'wildness' that the herd still possessed. The creation of buffalo steers, to improve meat quality, was one such scheme, proposed when it was first discovered that the meat of older bulls was not going to stir any demand. Relying on knowledge from the cattle industry, that the castration of domestic bulls improved the palatability of meat, Graham argued for the experiment to go ahead as early as 1919: "[i]n the case of young bulls prime beef of high quality could be made of these if such bulls were turned into steers and later beefed at three or four years old." He believed that the department could realize further benefits if steers were slaughtered in the winter, when they could also obtain revenue from the heads and hides.[279] It was decided in 1923 to emasculate eleven calves as an experiment. While the results did not prove profitable enough to warrant the continuation of the practice,[280] the attempt to go to such lengths to make the bison herd more profitable shows the change of emphasis taking place at Buffalo National Park.

---

[276] The handling of these condemned carcasses took just as long as did the healthy. Therefore, Duclos was paid for the total weight of all the animals slaughtered, condemned or not. NAC, RG 84, Vol. 57, File BU299-1, pt. 1, J. B. Harkin to A. G. Smith, 24 Mar. 1923.

[277] NAC, RG 84, Vol. 57, File BU299-1, pt. 1, Memorandum to P. Marchand, 21 Jan. 1924.

[278] NAC, RG 84, Vol. 52, File BU232-1, pt. 1, J. B. Harkin to Colin C. Moncrieff, 15 Dec. 1922.

Figure 5: Buffalo Slaughter. Source: Herb Dixon Collection

---

[279] NAC RG 84, Vol. 53, File BU232, pt. 1, Maxwell Graham to J. B. Harking, 16 Oct. 1919.

[280] While steers slaughtered up to the age of four years were in better condition than buffalo bulls of the same age, they depreciated in quality after four years. Furthermore, older steers had inferior heads and hides compared to the older bulls. NAC, RG 84, Vol. 54, File BU232, pt. 5, A. G. Smith to the Controller, 15 Mar. 1939.

As the herd increased, the solution to the problem moved beyond disposing of excess bulls. It became necessary to reduce the population as a whole, both males and females. This reduction brought about public protest regarding the practices used to reduce the herd. Specifically, humane societies protested the killing of cows that were in calf. That the department remained aloof from these protests illustrates again the shift to a ranching operation intent on acquiring enough profit to sustain itself. In response to protests, one official stated, "[t]o the practical stockmen, this is a joke and I see no reason why we should not treat the buffalo herd in the same way as a rancher treats his herd of domestic stock."[281]

Ultimately, commercialization of the herd did not alleviate the financial problems of the park. In the short term, the effort appeared to be bearing some fruit; in April 1924, meat returns from the first large-scale slaughter were proving satisfactory and Harkin stated, "I am beginning to think that the commercial returns from slaughtering of the buffalo on the whole are going to be so satisfactory that as a pure matter of business it may be desirable to adhere to slaughtering as the best means for keeping the herd within reasonable numbers (See Figure 5)."[282] Robes and heads were not selling as successfully as hoped, but these items were not perishable and could be stored indefinitely.[283] However, in the winter of 1924 the department decided not to slaughter any animals. While the department argued that good moisture had been received that year and the park was in a better position to sustain animals, it is clear that the main reason for cancelling the slaughter was financial. Proof that revenue from commercial sales was insufficient to sustain the effort can be seen in the next scheme enacted to reduce the population of the herd.

---

[281] NAC, RG 84, Vol. 53, File BU232, pt. 3, J. Smart to J. B. Harkin, 21 Apr. 1926.

[282] NAC, RG 84, Vol. 57, File BU299-1, pt. 1, J. B. Harkin to R. A. Gibson, 19 Apr. 1924.

[283] NAC, RG 84, Vol. 57, File BU299-1, pt. 1, J. B. Harkin to A. G. Smith, 19 Dec. 1922.

The suggestion to ship some of the excess herd north to the newly formed Wood Buffalo Park was first raised by Dominion Parks Inspector H. E. Sibbald in 1923.[284] Initially, Harkin opposed the proposal by stating that the endeavour would be an expensive undertaking: "[a]part from that, however…what particular object is to be served? It is likely that by annually slaughtering one thousand animals, or thereabouts, at Wainwright, the Department will be able to secure a substantial revenue."[285] However, in 1925, the Parks Branch stated that it had "absolutely no funds with which to carry on killing operations this Fall."[286] And the existence of products still on hand from the 1923 slaughter suggests that market for buffalo products had not been as lucrative as anticipated.[287] Thus, this new outlet for the excess buffalo began to look more appealing as a cost-saving measure for the department; while shipping buffalo was an expensive undertaking, the Northwest Territories Branch and Yukon Branch would assume all the cost of shipping the buffalo after they had been loaded on the trains at Wainwright. Even though the initial cost to the Parks Branch for construction of necessary infrastructure for loading the buffalo at Wainwright was $20,000, this cost needed to be incurred only for the first shipment.[288] Following this initial expenditure, future shipments would cost the department only about $5,000 (or $2.50 per head).[289] So when Harkin stated that the decision to move the buffalo north was made with the best interests of the people of Canada in mind, he was clearly implying that this route was the least costly to the government.[290] While shipping buffalo north did not promise the potential revenue to the Parks Branch that slaughtering did, it was still justified by financial or economic reasons. With the anticipation that the buffalo that were shipped north would increase at the same rate as they had in Wainwright, Harkin stated that they constituted an integral part in the development of the north, specifically as a food and fur supply sustaining natives, explorers, and prospectors.[291] Shipping the buffalo north also removed the surplus bison from public view and awareness. Certainly, this option of disposing of the surplus animals would have been considered more palatable to the general public than disposing of the animals by slaughter.

---

[284] NAC, RG 84, Vol. 52, File BU232-1, pt. 1, H. E. Sibbald to J. B. Harkin, 17 Jan. 1923.

[285] NAC, RG 84, Vol. 52, File BU232-1, pt. 1, J. B. Harkin to H. E. Sibbald, 17 Jan. 1923.

[286] NAC, RG 84, Vol. 57, File BU299-1, pt. 1, Letter to W. W. Cory, 31 Aug. 1925.

[287] NAC, RG 84, Vol. 57, File BU299-1, pt. 1, Letter to W. W. Cory, 31 Aug. 1925.

---

[288] Expenditures included $8,000 to $10,000 for 8 to 10 miles of fence, plus construction of corrals and squeezes for loading and additional requirements to ready the railcars for buffalo. It was estimated that it would cost $10 per head to ship buffalo based on 2,000 head for the first shipment. NAC, RG 84, Vol. 52, File BU232-1, pt. 1, Memorandum from C. Nagle, 19 Dec. 1924 and Memorandum to Mr. Graham, 19 Jan. 1925.

[289] It was estimated that it would cost the department $6,000 to dispose of the buffalo by tender on the hoof and approximately $24,000 for the department to conduct an internal slaughter. With the latter option, the department questioned whether the sale of the buffalo products would raise enough revenue to offset the cost. NAC, RG 84, Vol. 53, File BU232 pt. 3, C. Nagle to Mr. Bateman, 30 Nov. 1925. Sending the buffalo north, from a financial point of view, was the most logical plan especially since the department had already invested in the infrastructure to corral and load the buffalo in 1925.

[290] NAC, RG 84, Vol. 53, File BU232, pt. 3, J. B. Harkin to Geo. B. Grinnell, 21 Apr. 1925.

[291] NAC, RG 84, Vol. 52, File BU232-1, pt. 2, J. B. Harkin to Lewis Freeman, 14 Nov. 1927.

Table 3: Inventory of Buffalo Slaughtered by Contract and Shipped to Wood Buffalo Park, 1922-40

Year	Number of Buffalo Slaughtered	Number of Buffalo Shipped to Wood Buffalo Park
1922-23	265	-
1923-24	1881*	-
1924-25	-	-
1925-26	-	1634
1926-27	2001**	2011
1927-28	1000	1940
1928-29	-	1088
1929-30	525	-
1930-31	67	-
1931-32	1534	-
1932-33	1216	-
1933-34	2000	-
1934-35	1000	-
1935-36	♣	-
1936-37	1522	-
1937-38	2020	-
1938-39	1200	-
1939-40	2910	-

Source: NAC, RG 84, Vol. 54, File BU232, pt. 4, F. H. H. Williamson to V. W. Jackson, 17 June 1937 and J. B. Harkin to William Rowan, 23 Mar. 1929, Vol. 53, File Bu232 pt 3, J. B. Harkin to Geo. B. Grinnell, Vol. 58, File BU299, pt. 11, J. B. Harkin to Canada Packers Limited, 21 Nov. 1938, Vol. 58, File BU299-2, pt. 15, Memorandum to Mr. Lloyd, 15 Jan. 1940, Vol. 58, File BU299, pt. 14, Memorandum to Mr. Lloyd, 4 Jan. 1939, Vol. 57, File BU299, pt. 13, "Approximate Census of Buffalo Herd, March 31 1938.

* NAC, RG 84, Vol. 53, File Bu232 pt 3, J. B. Harkin to Geo. B. Grinnell, 21 July 1924, states the number of buffalo slaughtered in 1923-24 was 1,847.

**NAC, RG 84, Vol. 54, File BU232, pt. 4, J. B. Harkin to William Rowan, 23 Mar. 1929, states the number of buffalo slaughtered in 1926-27 was 2,013.

♣ There was no slaughter in 1935-36 because the abattoir at Buffalo National Park burned down.

The decision led to another management decision that contradicted the effort to preserve a species in its wild state – the branding of buffalo. This practice was rooted firmly in the ranching tradition and was, symbolically, the greatest proof that the status of buffalo as a wild creature had vanished and that the animals were now considered mere range stock. Branding, in one sense, was implemented as a measure to maintain the integrity of the plains bison; the practice was desired by the North West Territories Branch to permit the wardens in Wood Buffalo Park easily to distinguish between the plains and wood bison. However, in hindsight the practice served little purpose, given that this means of identifying the species did nothing to prevent the two types of bison from interbreeding. After consulting with Dr. G. Hilton, veterinary director general, Alberta agent Dr. Hargraves, and Chief of Wild Life Division Maxwell Graham, the Parks Branch went ahead with the scheme; 1,654 bison were branded by local rancher Harry Mabey with a "W" on their right shank.[292] Buffalo were only branded in 1925, the first year they were sent north. The main reason for discontinuing the procedure was financial: branding was proving too costly since it required that the buffalo be segregated, fed additional hay, and held in corrals longer than otherwise necessary.[293] However, Ellis Treffry suggests that it was when the SPCA from Edmonton was informed of and protested the branding that the administration stopped the practice.[294]

In 1926, it was apparent that shipping buffalo north was not alleviating the park's overpopulation problem. Smith estimated that even with that year's shipment, the natural increase was going to leave the park with over 8,000 buffalo, almost twice the capacity recommended for the park.[295] While shipments north continued for two more years (See Table 3), it became necessary to commence slaughtering once again, and the Parks

---

[292] NAC, RG 84, Vol. 52, File BU232-1, pt. 1, O. S. Finnie to J. B. Harkin 27 Apr. 1925, File BU232-1, pt. 2, Memorandum to O. S. Finnie, 29 July 1925 and A. G. Smith to J. C. Hargrave, 25 June 1925, Vol. 53, File BU232-1, pt. 3, "150 Bison Branded in One Day's Work," *Edmonton Journal*, 13 June 1925.

[293] NAC, RG 84, Vol. 52, File BU232-1, pt. 2, J. B. Harkin to W. W. Cory, 16 July 1925.

[294] Treffry.

[295] NAC, RG 84, Vol. 52, File BU232-1, pt. 2, A. G. Smith to J. B. Harkin, 30 Apr. 1926.

Branch was again faced with the problem of making this slaughter commercially viable.[296] In the 1930s, the market for buffalo meat had fallen, perhaps best illustrated by the exceedingly low price offered by Burns and Company Ltd. for the contract to slaughter the herd in 1933. Burns stated that even beef prices were low. Furthermore, buffalo meat was no longer considered a novelty, and was more difficult to market.[297] Once again, other avenues for offloading surplus meat were explored. J. B. Harkin approached Messrs. Gainers Limited inquiring about experimenting with canned meat on the market.[298]

It was, however, the use of buffalo meat for relief purposes that proved to be the most effective outlet. In 1933, the majority of the meat was used for relief purposes by the Department of National Defence, at national parks relief camps, and for Inuit relief, leaving only a small amount for the department to dispose of.[299] While meat was distributed in this manner for 1933-34 and 1934-35, the market improved enough by 1936 to return to the sale of meat by public competition. But even when the market improved, issues arose over the quality of the meat. The need to dispose of such high numbers of buffalo over the years had resulted in a herd composed mostly of younger animals. Thus in the 1939 slaughter, the majority of animals killed were so young that the sale of the meat again became problematic. Burns and Co. Limited, who performed the slaughter that year, wrote:

---

[296] I was unable to find any documentation that stated why the Parks Branch did not send more buffalo north to Wood Buffalo Park. Perhaps the department did not want to overstock the park. Another possibility is that the financial obligation required to ship the buffalo had become too great for either the Parks Branch or the Northwest Territories and Yukon Branch to bear. I was also unable to find any information on how the size of the shipments that were sent north from 1925 to 1928 was determined.

[297] NAC, RG 84, Vol. 57, File BU299, pt. 9, Letter to Hon. T. G. Murphy, 3 Nov. 1933, John Burns to J. B. Harkin, 30 Oct. 1933 and R. S. Munn to A. G. Smith, 6 June, 1933.

[298] NAC, RG 84, Vol. 57, File BU299, pt. 9, J. B. Harkin to Messrs. Gainers Limited, 22 June, 1933.

[299] NAC, RG 84, Vol. 57, File BU299, pt. 9, Letter to H. R. Rowatt, 28 Oct. 1933.

> These younger animals have not a good finish and do not show up to advantage when displayed on the retail counter. On the face of which it would seem that younger animals would be more desirable, particularly from the standpoint of the tenderness, but the lack of finish which they showed this year has more than offset the desirability of them in eating qualities.[300]

The rapid increase of the bison herd in Buffalo National Park and the policy of commercialization that was adopted to deal with this problem had, from 1922 to the park's closure, created a form of interventionary management unprecedented in the history of the park. Beyond the annual practice of moving the herd between its summer and winter ranges, the Park Riders, from 1922 onward, additionally rounded up the herd virtually on an annual basis for either slaughter or shipment. Since the reduction schemes of slaughtering and shipping buffalo north required that buffalo of a specific age or sex be segregated from the herd, the management of the bison began to resemble the handling of domestic cattle. A newspaper description of the 1925 roundup, while saturated with descriptions of 'Wild West' thrills, sounds very much like an annual spring roundup on a ranch, with a bit more action (See Figure 6). Park Riders first drove the charged herd to the corrals, then sorted the required buffalo into pens, and ran them through the chutes to the squeeze where they were branded and released into the loading pen. From there the riders moved them into the cattle cars.[301] Roundups for slaughtering would have been similar except slaughters were undertaken in the winter and, of course, the buffalo were not branded. While only a portion of the herd was targeted in the roundups, the process affected the entire herd. For the roundup in 1926 for the northern shipment, A. G. Smith stated that 7,101 animals were passed through the corrals in order to segregate 1,903 buffalo.[302] Since 2,000 buffalo were required for shipment that year, some of the buffalo must have been subjected to the round up more than once that year.

---

[300] NAC, RG 84, Vol. 58, File BU299, pt. 14, Burns & Co. Limited to F. H. H. Williamson, 9 Feb. 1939.

[301] NAC, RG 84, Vol. 53, File BU232-1, pt. 3, "Cowboys Win In Tug-O-War With 800-Pound Buffalo; Load Cars at Wainwright" in *Edmonton Journal*, 15 June 1925.

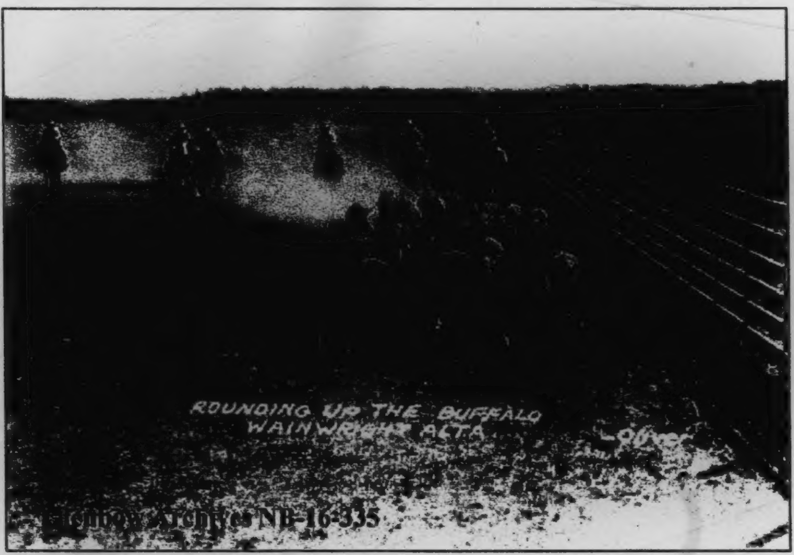

Figure 6: Buffalo Roundup for Shipment to Wood Buffalo National Park. Source: Glenbow Archives, NB-16-355.

The effort to preserve the plains bison at Wainwright was doomed to failure from the day the government purchased the Pablo herd. Given the symbolic and nostalgic motives for opening the park, the main emphasis from the beginning of the effort, that of increasing the population of the bison herd, was one of the leading factors contributing to the park's failure. This directive, an innocent but misguided policy, resulted in a situation where the integrity of the effort was compromised when it became necessary to make the bison financially useful. Commericalization of the herd at Buffalo National Park was never a policy that the Parks Branch had intended to follow. But the Parks Branch found itself in a circular problem; it became necessary to make the herd profitable so the department could raise revenue in order to sustain the effort. However, commercialization of the herd never raised enough money to cover the expenditures incurred by the effort. By 1940, the total amount of revenue raised, $531,783.12, did not even come close to covering the total amount expended on the park from the beginning, which totalled $1,541,767.51.[303]

---

[302] NAC, RG 84, Vol. 52, File BU232-1, pt. 2, A. G. Smith to J. B. Harkin, 1926.

The effort to save the plains bison at Buffalo National Park cannot be considered "preservationist" or "conservationist." Rather, the decision to commercialize the herd resulted in even greater damage to wildlife preservation policy and practice. While the buffalo had been the focus of domestication efforts before they were purchased for Buffalo National Park and frequently referred to as "stock" throughout the effort, the shift in focus from a salvage effort to a profit venture changed the bison, in the eyes of the department, to a species that was no longer considered 'wildlife.' The shipment of diseased plains bison north further compromised the integrity of the wood buffalo and introduced disease to the latter herd. When the closure of the park was announced and the final slaughter of all the animals in it confirmed, F. H. H. Williamson, Controller of the National Parks Bureau, wrote a memo about disposing of the deer, moose, and elk in the park. He stated: "whenever conditions necessitate the slaughter in the National Parks of animals commonly hunted as game outside we have tried to avoid any suggestion of commercialism."[304] He made no mention of buffalo. Clearly, the commercialization of the bison in Buffalo National Park had fatally compromised the preservation of the plains bison.

---

[303] NAC, RG 84, Vol. 982, File BU2[548608] pt. 3, F. H. H. Williamson to E. C. Bannerman, 15 Feb. 1940.

[304] NAC, RG 84, Vol. 58, File BU299-2, pt. 15, F. H. H. Williamson to A. G. Smith, 14 Nov. 1939.

Chapter 5: Zookeepers and Wildlife Breeders: Other Wildlife in Buffalo National Park and the Crisis of the Range

While Buffalo National Park was established to preserve the plains bison, this park also protected many other species of wildlife indigenous to Western Canada. Deer, elk, moose, and antelope were added to the park at its establishment and preserved along with the buffalo. Before the establishment of Elk Island National Park and Buffalo National Park, national parks, as wildlife reserves, functioned in two simultaneous roles: as zoos and as breeding grounds. In Rocky Mountains Park, wildlife was displayed in the paddock and the zoo to draw tourists, but animals in the park were also encouraged to breed in order that the surplus would spill outside the borders to furnish the adjacent area with game for sportsmen. In Buffalo National Park, buffalo never fulfilled this role. While the public was encouraged to see the buffalo in their natural state, it was never intended that buffalo be bred in order to reintroduce the species back into the wild so that it could be once again hunted. The addition of and building up of other wildlife herds in Buffalo National Park, however, fulfilled this dual role that had been defined for wildlife in the mountain parks. A wildlife display paddock was built in the northeastern area of the Buffalo National Park to cater to tourists; the main park area was a breeding ground where these other animals were raised alongside the buffalo. While it is not clear how many tourists the animals in the display paddocks enticed to the park, the breeding ground was very successful. Like the buffalo, these other animals increased rapidly in population.

Playing the role of a breeding ground proved to be very problematic for Buffalo National Park. Because it was a prairie park, and settlement surrounded its borders, the area needed to be fenced. The inability of the surplus wildlife to move into the area outside the borders, which meant that these other animals could not be used in the same way as in the mountain parks, only added pressure to the already overcrowded conditions of the park. However, the fact that these other animals were viewed differently from buffalo proved to be an equally important contributor to the park's overpopulation problem. All the animals in the park were considered wildlife, but these other animals were classified as game. While measures were taken to reduce the buffalo herd, the game status ascribed to the other animals meant that any notion of reducing them induced public criticism. Except for some elk in 1938, no game species were slaughtered in Buffalo National Park until the park was closed.

The high numbers of these other animals proved to be a menace to the buffalo-saving effort. They competed with the buffalo for food and were carriers of disease, both of which affected the health of the buffalo. However, the numbers of these other animals when combined with the overpopulated buffalo herd produced the second, and perhaps most threatening, crisis that the park was to encounter – the degradation of the range. The availability of food was absolutely necessary to sustain this wildlife park; the pressure of large animal herds affected the health of all the animals and ultimately placed the buffalo effort in jeopardy. Park officials made attempts to reverse the effects caused by the pressure of an overcrowded range, but because of financial constraints, little was done. Thus the range continued to be overgrazed and was one of the leading factors in the park's closure.

By the 1930s, national parks had come to be defined by their role as wildlife reserves. In 1933, J. B. Harkin, commissioner of the Parks Branch from 1911 until 1936, stated, "animal Parks fulfill two objects; the primary object is as breeding grounds, and the secondary object is as exhibition places."[305] While the importance of wildlife was realized early on in national parks history, wildlife had not always functioned in this dual role. The idea that wildlife could be used for a dual purpose evolved from the twofold demand placed on wildlife by the public. Sportsmen had been drawn to the mountain areas even before the establishment of the first reserve to hunt wildlife. Howard Douglas, the second superintendent of Rocky Mountains Park, soon realized that tourists were drawn to the national parks because of the opportunity to see wildlife. He began to experiment with the use of wildlife. In the park they were to attract patrons who wanted to see animals. But parks were also to act as breeding grounds where wildlife would propagate and move outside the borders to furnish adjacent areas with game for sport hunting.

Douglas began his experiment of displaying wildlife to the public by importing plains bison,[306] mountain sheep, angora goats, elk, mule deer, and moose to Rocky Mountains Park.[307] Originally, Douglas built a paddock, which was later expanded to 200 hectares, to display these animals. In 1907, however, a zoo was opened in Banff town site and some of the animals were moved to this new location.[308] Sid Marty argues that the experiment of the zoo made these animals even more accessible to tourists and proved "pivotal in changing the attitudes on wildlife preservation in the national parks. For the first time…[wild animals] were seen as an asset, and a potentially valuable one, as a source of interest to tourists."[309] The experiment of exhibiting wildlife for recreational purposes proved to be a financially successful venture. Janet Foster notes that the deputy minister of the interior, the minister who oversaw the early national parks, was pleased with the success of the animal preserve. By 1905, the revenue in Rocky Mountains Park "doubled the amount required for expenditure and maintenance."[310] Although exhibiting wildlife soon became secondary to breeding wildlife in national parks, it proved so financially successful in Rocky Mountains Park that it popularized the idea of national parks as breeding grounds.

---

[305] NAC, RG 84, Vol. 50, File BU217, pt. 1, J. B. Harkin to Hoyes Lloyd, 6 Mar. 1933.

[306] The plains bison herd at Rocky Mountains Park consisted of two buffalo cows purchased from Texas by T. G. Blackstock of Toronto, which he and donated to the park, and thirteen buffalo from Manitoba donated by Lord Strathcona. Marty, 82-83.

[307] Janet Foster, 56.

[308] Marty, 82-83

Given that Douglas was heavily involved in the establishment of Buffalo National Park, it should not be surprising that the park followed an almost identical pattern to that of Rocky Mountains Park in accommodating other wildlife species. Besides the plains bison, other wildlife indigenous to western Canada was added to the reserve. As early as 1910, elk, moose and pronghorn antelope were purchased for the park.[311] In fact, some of the first elk were purchased from Michel Pablo; seven elk, two bucks and five does, were transported to the park with the 1911 shipment of buffalo.[312] While mule deer would become the most prolific, this animal was never added to the park. Rather, the deer were enclosed in the area when the fence was built.[313]

---

[309] Marty, 83-84.

[310] Janet Foster, 56.

[311] NAC, RG 84, Vol. 55, File BU234, pt. 1, L. Pereira to Howard Douglas, 17 Dec. 1910 and Vol. 50, File BU211, pt. 1, Extract from Letter from Howard Douglas, 26 Sept. 1910.

[312] NAC, RG 84, Vol. 51, File BU209, pt. 3, F. H. Byshe to Mr. Drake, 29 June 1911 and Vol. 55, File BU234, pt. 1, Maxwell Graham to J. B. Harkin, 4 Dec. 1915.

Like Rocky Mountains Park, Buffalo National Park had an area designated as the Visitor's Park which was made up of two small, adjacent paddocks in the northeast corner of the park. Clearly influenced by the successful experiment of displaying wildlife in Rocky Mountains Park, these enclosures were placed in the area closest to the town and railway line and thus most accessible to the public. On Buffalo National Park maps, the area is designated as an "Enclosure for Elk, Moose, Antelope and a few Buffalo."[314] In 1921, eleven male and eight female yak were shipped from Rocky Mountains Park for an exhibition herd.[315] While it is unclear if both paddocks in the Visitor's Park were used to display wildlife, it is certain that Home Paddock (also referred to as the Small Buffalo Park) was used for this purpose. However, one report suggested that the other paddock, the Mott Lake Enclosure was also used to display animals.[316] But the fact that Mott Lake was also a recreational ground and a summer resort,[317] confirms that the paddock was designed to draw tourists to the park. Essentially, this northeastern corner of the park was set up as a menagerie. While exhibiting wildlife in the Home Paddock may have acted as a drawing card for tourists to the park, it certainly did not benefit the animals in terms of preservation.

---

[313] NAC, RG 84, Vol. 53, File BU232, pt. 1, J. B. Harkin to R. M. Anderson, 23 June 1933.

[314] NAC, RG 84, Vol. 50, File BU38, pt. 1, "Buffalo Park," circa 1926, and "Buffalo Park," circa 1912.

[315] Yak were first introduced to the park in 1919 to be used in crossbreeding trials for the cattalo experiment. NAC, RG 84, Vol. 55, File BU241, pt. 1, A. G. Smith to Ernest T. Seton, 28 Dec. 1925.

[316] A report from 1935 is not specific about the contents of each enclosure, but states the area housed elk, yak, a small herd of buffalo. NAC, RG 84, Vol. 52, File BU233, pt. 2, Progress Report on the Control of Liver Fluke on Wainwright Park, Alta., 1934. Another report specified that Home Paddock, the larger of the two pens, housed the buffalo and male elk. NAC, RG 84, Vol. 52, File BU233, pt. 2, A Summarized Report of the Investigation of Parasitism in the Animals at Buffalo Park, Wainwright, Alta., With Special Reference to the Life History and Control of the Large Liver Fluke (Fasciola Magna), n.d. However, it seems logical that some animals roamed in the Mott Lake Enclosure since Dr. Swales found this to be the center of the liver fluke infection that plagued the park. NAC, RG 84, Vol. 52, File BU233, pt. 2, Thomas Cowan to J. B. Harkin, 21 July 1933.

[317] NAC, RG 84, Vol. 50, File BU38, pt. 1, "Buffalo Park," circa 1926, and "Buffalo Park," circa 1912 and J. B. Harkin to A. G. Smith, 23 Jan. 1916.

The pronghorn antelope is one example of an animal whose numbers had been severely reduced by over hunting and thus was added to the Wainwright park with the intent of increasing its population. In 1910, Douglas commissioned C. J. Blazier to capture antelope in order that they could be raised in the national parks. He feared that "in a very few years these animals will be extinct in Alberta and there are no others in any part of Canada."[318] Of the thirteen captured by Blazier, nine were delivered to Buffalo Park and four to Rocky Mountains Park.[319]

The three national parks established to save the antelope from extinction were not established until 1914.[320] Thus, prior to the founding of these parks, Buffalo National Park was given the responsibility of reestablishing the animals. The pronghorn antelope, primarily raised in the Home Paddock, did not fair well in captivity and continued to die from unknown causes and accidents. One of the more common ailments that afflicted the antelope at Buffalo National Park was a condition that involved ulcers on the neck or the jaw. The condition was first noted in Banff in 1910 when two antelope died from ulcers, which appeared on their necks.[321] At that time, A. B. Macdonald, Superintendent of

---

[318] NAC, RG 84, Vol. 50, File BU211, pt. 1, Extract from Letter From Howard Douglas, 26 Sept. 1910.

[319] NAC, RG 84, Vol. 50, File BU211, pt. 1, Extract from Letter From Howard Douglas, 26 Sept. 1910.

[320] Canyon and Maple Creek Reserves, that became Wawaskesy and Menissawok National Parks respectively, were set-aside in 1914, and Nemiskam Park was established in 1915. Janet Foster, 98-99, 103.

[321] NAC, RG 84, Vol. 50, File BU211, pt. 1, Superintendent of Rocky Mountain Parks to the Secretary of the Department of the Interior, 9 Sept. 1910.

Rocky Mountains Park, determined that the condition was due to climate. He believed that the environment of the mountains was not suitable for this prairie species and, in 1911, decided to send the remaining four animals in Rocky Mountains Park, all of which had evidence of ulcers, to Wainwright.[322] However, the antelope continued to have a poor track record in their new location. Of the nine antelope delivered to Buffalo National Park in 1910, six died. Four more were shipped from Rocky Mountains Park, bringing the total to seven, but three of these died during 1911-12.[323] High mortality among the antelope was a trend that continued throughout the park's existence.

The superintendent of Nemiskam Antelope Park, which was established in 1915, was familiar with the disease and believed it to be an ailment of tame antelope confined to small enclosures. He described the symptoms as a lump on the jaw that had a yellowish pus discharge. He believed the disease to be contagious and fatal stating, "I have never known one to recover."[324] In his opinion the cause of the ailment resulted from a lack of alkali and certain varieties of short grass. He felt it absolutely necessary that antelope have access to sagebrush.[325] S. E. Clarke, Department of Agriculture agrostologist, and Frank Shutt, Dominion chemist, concurred that the disease was related to a lack of certain forage types. Both men hoped to make a detailed study of Nemiskam

---

[322] NAC, RG 84, Vol. 50, File BU211, pt. 1, A. B. Macdonald to Secretary, Department of the Interior, 27 Apr. 1911.

[323] NAC, RG 84, Vol. 53, File BU232, pt. 1, Maxwell Graham to J. B. Harkin, 3 Aug. 1912.

[324] NAC, RG 84, Vol. 50, File BU211, pt. 1, Edgar McHugh to J. B. Harkin, 31 Jan. 1929.

[325] NAC, RG 84, Vol. 50, File BU211, pt. 1, Edgar McHugh to J. B. Harkin, 31 Jan. 1929.

Antelope Park to glean more information on the plants available there, since this park had been successful in increasing the antelope population.[326]

F. H. Byshe, of the Department of the Interior, identified in 1911 that "the artificial conditions under which these antelope were, of necessity kept, had a good deal to do with their death."[327] His use of the word "necessity" suggests the main reasons why the animals were kept in captivity. Because the antelope were on the verge of extinction, liberating these animals, whether into the main park or even outside the park borders, threatened the existence of the species. Given that these animals were so fragile, the department wanted to assert the best control they could over the animals. Even though Douglas had determined that the fatal disease that afflicted antelope could be attributed to the lack of a certain weed or brush,[328] he suggested that the animals be confined for a year to Home Paddock. By this time they would be old enough to protect themselves and could "get what feed they require[d] in a natural manner."[329] However, Buffalo National Park was never successful in establishing a viable herd of antelope.

Ailments also affected the other animals in Home Paddock, a result of these animals being confined to such a small space. One example was the discovery, in 1918, of an older bull moose whose hooves were terribly overgrown and beginning to curl.[330] It was known that the excess growth of the hooves was caused by confining the moose to a small enclosure in combination with his old age. A. G. Smith, superintendent of Buffalo National Park, stated: "Such traits [growth of hooves], are not characteristic of the moose alone but of all wild animals."[331] The cause of the malady was known, but park officials did nothing to rectify the situation. Those involved did not wish to turn the elderly bull out into the larger pasture because they feared that a younger bull might kill it. Rather, Maxwell Graham, chief of the Park Animals Division, advised that broken stone be place in the paddock to aid with wearing down the hooves.[332] His recommendation suggests that this old moose was not the only animal afflicted with this problem.

---

[326] NAC, RG 84, Vol. 50, File BU211, pt. 1, S. E. Clarke to J. B. Harkin, 1 Aug. 1929 and Frank T. Shutt to J. B. Harkin, 20 Jan. 1930. In March 1928, the herd of antelope at Nemiskam Antelope Park numbered 460 animals. J. B. Harkin to Benjamin Lawton, 29 Mar. 1928.

[327] NAC, RG 84, Vol. 50, File BU211, pt. 1, F. H. Byshe to Mr. Campbell, 24 Mar. 1911.

[328] NAC, RG 84, Vol. 53, File BU232, pt. 1, Maxwell Graham to J. B. Harkin, 3 Aug. 1912.

[329] NAC, RG 84, Vol. 50, File BU211, pt. 1, F. H. Byshe to Mr. Campbell, 24 Mar. 1911.

[330] NAC, RG 84, Vol. 55, File BU236, pt. 1, A. G. Smith to J. B. Harkin, 3 Dec. 1918.

The protection of animals in the Visitor's Park, specifically inferior animals that would not have otherwise survived, resulted in the decrease in the health of the display herd as a whole. Protection of physically inferior animals is perhaps best illustrated by the survival of two dwarf elk. In 1919, Smith asked for permission to kill a dwarf elk, which was already four years old but no larger than a fawn. This was the second case of a dwarf elk the park had encountered.[333] Clearly dwarfism was a genetic condition and not caused by captivity. Their protection, however, as with the moose, allowed inferior animals to endure and contributed to the overcrowded condition of the display area. In a natural setting, unfit animals would not generally have survived.

While the exhibition or zoo areas were an important place for displaying the animals to draw tourists, parks were also deemed important for propagating wildlife species. C. Gordon Hewitt believed this to be one of the great advantages of the mountain reserves and stated, "[Rocky Mountains Park], together with Jasper and Waterton Lakes Parks, will serve as unrivalled breeding-ground for the big-game animals of the Rocky Mountains region, and the surplus wild-life population will afford a constant supply of big-game and fur-bearing animals for the adjacent unprotected regions."[334] By supplying areas with wildlife, the national parks were providing a service that benefited both the parks system and the country as a whole.

---

[331] NAC, RG 84, Vol. 55, File BU236, pt. 1, A. G. Smith to J. B. Harkin, 27 Dec. 1918.

[332] NAC, RG 84, Vol. 55, File BU236, pt. 1, A. G. Smith to J. B. Harkin, 27 Dec. 1918.

[333] NAC, RG 84, Vol. 55, File BU234, pt. 1, A. G. Smith to J. B. Harkin, 20 Mar. 1919.

Buffalo National Park proved very successful as a breeding ground for wildlife. With the exception of the pronghorn antelope, all the other animal populations in the park increased very rapidly. Wildlife that increased in the mountain parks could spill outside the borders and occupy adjacent regions and furnish the area with game for sportsmen. Buffalo Park, however, was a prairie park in the middle of a settled area, which made the situation of breeding wildlife quite different. The fenced park prevented the surplus wildlife from moving freely outside the park borders and soon began to contribute significantly to the park's overpopulation problem. As early as 1916, Buffalo National Park was experiencing a population crisis with the growth of the buffalo herd. The other wildlife populations were certainly not as large as the buffalo herd, but their numbers only added additional pressure to the park. The buffalo population was at its highest in 1925-26 with 8,832 animals. With the addition of the other animals, the total population was actually 10,528, over twice the recommended carrying capacity (See Table 4).

---

[334] Hewitt, 238.

Table 4: Wildlife Populations in Buffalo National Park, 1922-32

Year	Buffalo	Moose	Elk	Deer	Total
1922-23	6,780	28	218	-	-
1923-24	6,655	29	288	1,194	8,136
1924-25	8,267	30	290	1,175	9,760
1925-26	8,832	35	368	1,293	10,528
1926-27	6,026	48	400	1,486	7,960
1927-28	4,241	54	472	1,653	6,420
1928-29	4,300	60	565	1,824	6,749
1929-30	5,016	66	654	1,994	7,730
1930-31	6,231	76	766	2,172	9,245
1931-32	6,331	86	916	2,500	9,833

Source: NAC, RG 84, Vol. 50, BU217, pt. 1, Memorandum to J. B. Harkin, 15 Feb. 1933.

The addition of other wildlife species to the buffalo preservation effort was not the only factor that contributed to the overpopulation problem. Elimination of the coyote in Buffalo National Park, another animal indigenous to the Canadian Plains, also contributed to increasing wildlife numbers. The coyote, classified as a predator and an enemy to wildlife species, was controlled because it posed a threat to the growth of wildlife populations inside the reserve.[335] Coyotes were blamed for the deaths of wildlife and birds, but they were also considered a menace because they destroyed heads and hides that were otherwise profitable when sold.[336] As early as 1913, Buffalo National Park Superintendent William McTaggart was complaining of the problem coyotes were creating, and noted he was going to "have all riders carry rifles on the round up with an endeavor to slaughter as many of them as possible."[337]

---

[335] Hewitt, 193.

[336] NAC, RG 84, Vol. 55, File BU262, pt. 1, J. B. Harkin to A. G. Smith, 5 Nov. 1917. A. G. Smith was given permission to kill a lame elk to save the good head and "splendid set of horns" from being spoiled by coyotes. NAC, RG 84, Vol. 55, File BU234, pt. 1, P. C. Bernard Hervey to A. G. Smith, 10 Nov. 1916.

Coyotes were also killed in Buffalo National Park because of pressure from settlers outside the park, especially those who had property adjacent to its borders. Annie Armstrong, an angry settler from the Fabyan area whose property was bordered by the park fence on two sides, complained that coyotes had eaten chickens, eggs, and a pig, and were posing a threat to small calves. These were sources of revenue which she and other settlers could not afford to lose. While people who lived farther away from the park were able to kill the coyotes, she could not. "[H]ere where we are right against the "Coyote Reserve" of 100,000 acres, in which shooting is not allowed the wolves[338] have learned to come and help themselves to the poultry and dash back in again." She continued, "Now, with this Park, I look upon the Dominion Government as a neighbor of mine who is not being neighborly, when such nuisances are protected to my detriment."[339] The fact that coyotes recognized that the park was a safe haven was confirmed by Bernard Hervey, chief superintendent of Dominion Parks in 1916. He stated, "As matters now stand when the coyotes are hunted outside they at once make a break for the Park, [jump] through the fence and leisurely stroll inside knowing that they are perfectly safe."[340]

As a result of these complaints, a campaign was initiated to eliminate coyotes in Buffalo National Park. Because the terrain of the park consisted of mostly open country, the use of hounds to hunt coyotes was believed to be the most efficient method. The campaign was very successful. In the first year, the 1918 fiscal year, sixty-five coyotes were destroyed, over three times the number that had been killed in the previous season. In fact, the use of hounds to eliminate coyotes was considered so efficient that Graham suggested that trained hounds be used in Jasper, Rocky Mountains, and Waterton Lakes to rid these national parks of predators (See Table 5).[341]

---

[337] NAC, RG 84, Vol. 55, File BU262, pt. 1, W. E. D. McTaggart to P.C. Barnard Hervey, 18 Sept. 1913.

[338] Coyotes were also called prairie wolves.

[339] NAC, RG 84, Vol. 55, File BU262, pt. 1, Annie Armstrong to William J. Roche, 22 Sept. 1917.

[340] NAC, RG 84, Vol. 55, File BU262, pt. 1, P.C. Barnard Hervey to J. B. Harkin, 13 Dec. 1916.

Table 5: Census of Coyotes Killed Under Hound Campaign in Buffalo National Park, 1917-28

1917-18	65
1918-19	83
1919-20	52
1920-21	59
1921-22	65
1922-23	51
1923-24	56
1924-25	67
1925-26	48
1926-27	118
1927-28	65

Source: NAC, RG 84, Vol. 55, File BU262, pt. 1

In the first years of the campaign, owners with hounds were authorized to hunt coyotes under the supervision of Park Riders.[342] However, in the winter of 1918, Smith suggested, and Harkin approved, that Foreman Herb Walker and Caretaker Dave Davison, who had their own hounds, be allowed to control the coyote population instead of enlisting private individuals (See Figure 7). In payment for the cost of the dogs, feed, and any possible loss, the men were allowed to keep the hides of the coyotes they killed.

---

[341] NAC, RG 84, Vol. 55, File BU262, pt. 1, Maxwell Graham to J. B. Harkin, 13 May 1918.

[342] NAC, RG 84, Vol. 55, File BU262, pt. 1, A. G. Smith to J. B. Harkin, 26 Dec. 1917 and A. G. Smith to J. B. Harkin, 26 Dec. 1917.

Given that hides were worth about three to five dollars each, the incentive was likely somewhat responsible for the high number of coyotes killed over the next ten years.[343] In fact, the business of eliminating this predator was becoming quite lucrative for park employees. In 1926-27, the year in which 118 coyotes were killed, employees were averaging over ten dollars per coyote skin (See Table 6).[344] In 1928, it was decided at the superintendents' conference that wardens would no longer be allowed to keep furs of any animals trapped in the park.[345] The killing of coyotes certainly slowed after this decision was implemented. Part of the reason was that there were not as many coyotes left to hunt. Not until 1934 did the coyote population increase again to a point where it was deemed necessary to begin controlling the population.[346] However, even in 1935, when the policy changed and predators began to be recognized as an integral part of the ecosystem, Smith thought that in the case of Buffalo National Park this new policy should not be strictly followed. Because the park was surrounded by settlement and protecting coyotes inside the reserve would induce criticism, Smith advised that coyote control should continue.[347] Thus, coyotes continued to be hunted throughout the park's existence. The removal of predators, in turn, encouraged the overpopulation of other animals in the park.

---

[343] NAC, RG 84, Vol. 55, File BU262, pt. 1, A. G. Smith to J. B. Harkin, 21 Nov. 1918, J. B. Harkin to A. G. Smith, 26 Nov. 1918 and P. C. Bernard Hervey to J. B. Harkin, 13 Dec. 1916.

[344] This figure was obtained by dividing the total amount received ($895.00) by the total number of coyote skins marketed (eighty-four). While Bud Cotton only averaged $8.25 per skin this year, Herb Walker averaged over $12. See Table 6.

[345] NAC, RG 84, Vol. 55, File BU262, pt. 1, J. B. Harkin to A. G. Smith, 8 Oct. 1928.

[346] NAC, RG 84, Vol. 55, File BU262, pt. 1, A. G. Smith to J. B. Harkin, 24 Dec. 1934.

[347] NAC, RG 84, Vol. 55, File BU262, pt. 1, A. G. Smith to J. B. Harkin, 21 Jan. 1935. In 1935, J. B. Harkin outlined the new predator policy that had emerged. "[T]he presence of coyotes is highly desirable as a control measure for deer, gophers, rabbits, etc., all of which destroy pasture, and that the coyotes play a particularly important part in keeping rabbits under control and in so doing are directly beneficial to the grazing animals." J. B. Harkin to A. G. Smith, 8 Jan. 1938.

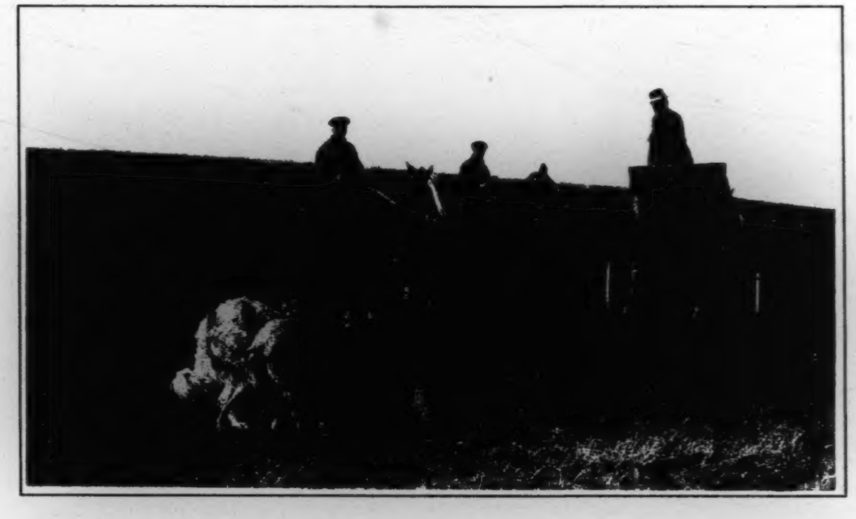

Figure 7: Hunting Coyotes in Buffalo National Park. Source: Herb Dixon Collection.

Table 6: Sale of Coyote Skins by Park Employees, 1926-27

Hunted By	Total Killed	No Value	Marketed	Amount Received
H. B. Walker	52	6	46	556.00
E. J. Cotton	13	1	12	99.00
D. W. Davison	43	27	16	140.00
H. F. Dunning	10	-	10	100.00
Total	**118**	**34**	**84**	**895.00**

Source: NAC, RG 84, Vol. 55, File BU262, pt. 1, A. G. Smith to J. B. Harkin, 25 Apr. 1927.

The designation of the other animal populations in Buffalo National Park as game species was the biggest factor contributing to the overpopulation crisis of in the park. Although means were taken to reduce the buffalo herd beginning in 1922, the status of these other animals as game impeded the department's effort to devise an appropriate solution for reducing their numbers. Except for 311 elk in 1938,[348] none of the other game animals were slaughtered until the closure of the park in 1940. Most of the pressure against controlling these wildlife populations through slaughter came from sportsmen's organizations. George Spargo, secretary of the Alberta Fish and Game Association, stated, "what is the object of having a concentration of big game within the confines of the National Parks if it isn't to increase "Big Game"… [I]f we are going to shoot the natural increase of what avail is it in keeping these huge tracts of land?…[Sportsmen] state that every effort should be made to have such a surplus distributed so that sport will benefit."[349]

The sensitivity surrounding the issue of slaughtering the park's game population is perhaps best illustrated by the various attempts by those in administration to reduce the biggest population of wildlife in the park next to the buffalo – the mule deer. Concern over the rapidly increasing mule deer herd first surfaced in 1923. While the department had initially wished to slaughter the animals, as it had done the buffalo, this avenue was never taken.[350] Clearly, the status of the animals as game was already an issue by 1923 given that the chief game guardian of the province of Alberta, Benjamin Lawton, was consulted for his opinion on how the department could best dispose of the deer. He suggested three options: sportsmen could be given an opportunity to shoot the deer, they could be slaughtered in the same manner as buffalo and the meat used as a food supply, or they could be turned loose outside the park.[351] A decade later, no action had yet been taken to reduce the herd. The recommendations of S. H. Clark, game commissioner in 1932, differed substantially from Lawton's and reflected a stance that would have certainly been more palatable to sport hunters. He recommended that the deer could be liberated out the gate on the west side of the park into the Battle River Valley, shipped by rail to the foothills to stock this area, or slaughtered and the meat donated to charitable organizations.[352] Clark's first two recommendations were solutions that would have fulfilled the park's purpose of furnishing wildlife to areas outside the park. Clark's third and final suggestion, slaughtering the deer and donating meat to charity, appears to have been more of a last resort. The fact that deer were never slaughtered until the final kill at the park's closure substantiates that this avenue was never deemed acceptable.

---

[348] The slaughter of elk was the first and only organized game kill in the park. The *Edmonton Journal* reported that the number of elk had grown so numerous that officials needed to dispose of some. Of significance, all the meat was shipped to the Indian Affairs branches in Manitoba and Saskatchewan to be used for native relief. NAC, RG 84, Vol. 58, File BU299, pt. 14, "Slaughter of 1,200 Bisons Starts in Wainwright Park," *Edmonton Journal*, 24 Nov. 1928.

[349] NAC, RG 84, Vol. 50, File BU211, pt. 2, George M. Spargo to A. G. Smith, 7 Dec. 1932.

[350] NAC, RG 84, Vol. 50, File BU217, pt. 1, J. B. Harkin to A. G. Smith, 13 Apr. 1923.

Because the department knew that the slaughter of game animals would induce criticism, other avenues of downsizing these wildlife populations were explored. The department attempted, with some success, to ship game to other areas in Canada.[353] Shipping costs, however, made the venture very expensive. Game commissioners Bryan Williams from British Columbia and A. E. Etter of Saskatchewan were both interested in securing elk, but the cost of shipping them proved to be the biggest roadblock. While Williams was able to take one carload of the animals to British Columbia because he was granted free passage for the animal on the railway, Etter was not granted the same privileges by the railway and so was unable to take any of the animals.[354]

---

[351] NAC, RG 84, Vol. 50, File BU217, pt. 1, Benjamin Lawton to J. B. Harkin, 16 May 1923.

[352] NAC, RG 84, Vol. 50, File BU211, pt. 2, Letter from S. H. Clark, 14 Oct. 1932.

[353] For example, elk had been shipped to Ontario for the Game Department in that province. NAC, RG 84, Vol. 55, File BU234, pt. 1, A. G. Smith to Geo. M. Spargo, 23 Jan. 1933.

While elk could be successfully shipped, the temperament of the deer made transportation of these animals problematic. Although there was interest in acquiring deer to stock areas, Benjamin Lawton, in 1923, advised against shipping them. He stated, "I am personally afraid that the loss due to accidents in corralling, loading, shipping and unloading might be sufficient to offset the good that might be done."[355] Moreover, transporting deer was more expensive than other wildlife. Although elk could be shipped loose inside a rail car that would hold up to twenty-five head,[356] deer were a more nervous creature and prone to injury. Therefore, each deer had to be transported inside a crate; this requirement made the scheme more costly. Moreover, even if deer were shipped successfully, they often died from the shock of a move shortly after arriving at a new location.[357] As a consequence, the department never attempted to ship deer. Instead, it explored liberating these animals outside the borders of Buffalo National Park.

Trials to liberate the mule deer, considered the best solution for reducing this animal population by the Alberta Fish and Game Association,[358] started in 1933. The park decided to release deer out the west gate of the park into the Battle River Valley. However, several problems with this plan soon surfaced. In 1933, the park believed that it needed to reduce the deer population in the park by 1500 animals.[359] However, the province was interested in having only 300 deer released into this area.[360] Furthermore, even though deer were to be liberated into an area adjacent to the park, the animals were not easily driven and park officials soon realized that the effort and labour involved in releasing the deer were going to be costly. In an attempt to offset some of the cost, the Parks Branch approached the province of Alberta for help; using the argument that the act of releasing the deer would be a benefit to the province of Alberta, the Parks Branch asked the province if it would pay one dollar per deer towards the cost of releasing them.[361] But as S. H. Clark noted, the provincial Game Branch did not feel justified, nor was it in the position, to put any money towards the proposal.[362]

---

[354] NAC, RG 84, Vol. 55, File BU234, pt. 1, A. E. Etter to J. B. Harkin, 19 June 1933 and 30 Sept. 1933, A. Bryan Williams to J. B. Harkin, 20 June 1933, 27 June 1933 and 31 Aug. 1931.

[355] NAC, RG 84, Vol. 50, File BU217, pt. 1, Benjamin Lawton to J. B. Harkin, 3 Oct. 1923.

[356] NAC, RG 84, Vol. 55, File BU234, pt. 1, J. B. Harkin to A. Bryan Williams, 6 June 1933.

[357] NAC, RG 84, Vol. 50, File BU211, pt. 2, J. B. Harkin to H. H. Rowatt, 7 Dec. 1933.

[358] NAC, RG 84, Vol. 50, File BU211, pt. 2, Letter from S. H. Clark, 14 Oct. 1932.

Initially, the Parks Branch decided to absorb the cost of releasing the deer, because it wanted to insure that the province would take more excess deer in the future.[363] Its method of doing so, however, showed that it lacked the financial will power to follow through on the scheme. To save on the cost of releasing the deer, park officials decided to capture deer in the horse pasture at Rocky Ford, an area in the west side of the park. This method of capturing deer involved minimal labour since the animals were enticed into the pasture by salt licks and oat sheaves. Although the low fence proved to be a problem in containing the animals, this initial glitch was fixed with the installation of a high wire fence.[364] Park officials believed that if this method proved successful, it could be a means by which a number of deer could be turned out each winter.[365]

---

[359] NAC, RG 84, Vol. 50, File BU211, pt. 2, J. B. Harkin to S. H. Clark, 6 June 1933.

[360] NAC, RG 84, Vol. 50, File BU211, pt. 2, Hoyes Lloyd to J. B. Harkin, 15 Sept. 1933.

[361] NAC, RG 84, Vol. 50, File BU211, pt. 2, J. B. Harkin to S. H. Clark, 13 Oct. 1933.

[362] NAC, RG 84, Vol. 50, File BU211, pt. 2, S. H. Clark to J. B. Harkin, 18 Nov. 1933.

[363] NAC, RG 84, Vol. 50, File BU211, pt. 2, Hoyes Lloyd to J. B. Harkin, 11 Sept. 1933.

This scheme of liberating deer was never successful enough, however, to reduce the deer herd numbers significantly. Although the park needed to reduce the deer populations in 1933, deliberations over the best and most cost-effective method meant none were released until 1935. In this year, the fifty-three deer that had gathered in the pen, a number substantially less than the 300 animals the province would allow, were released by opening the west gate. Due to the deep snow in 1936, which localized the deer population in the bush, the park was able to trap and release only twenty-seven deer.[366] Considering the park needed to reduce the deer herd by at least 1,500 animals, such a small number did not result in any significant change. Furthermore, the purpose behind releasing the deer, to restock the Battle River area, was precluded when most of the deer released the first winter were shot illegally.[367]

The controversy surrounding the culling of the game in Buffalo National Park resulted in virtually no reduction of these animal populations. When added to the overpopulated buffalo herd, the other animals contributed to the range crisis in the park. This, in turn, began to affect the health of all the wildlife species on the range. In 1932 the crowded conditions of the range took a noticeable toll on the deer population. By this time it amounted to 2,500 animals (See Table 4); when all the animal populations were accounted for, Buffalo National Park contained more than twice the capacity recommended for the park. In fact, by the 1930s, the range had become so damaged by overgrazing that S. E. Clarke stated that the park, which at one time could sustain 5,000 buffalo, could sustain only 4,000 head.[368] In February 1932, a number of deer and a few elk had been found dead or in a weakened state.[369] Smith reasoned that the high mortality rate might have resulted from the inferior pasture conditions in combination with the large amount of snow received that winter.[370] He also suggested that the high death rate could be attributed to a cycle in which the animals were subject to more deaths in some years than in others.[371]

---

[364] NAC, RG 84, Vol. 50, File BU211, pt. 2, A. G. Smith to J. B. Harkin, 5 June 1934.

[365] NAC, RG 84, Vol. 50, File BU211, pt. 2, A. G. Smith to J. B. Harkin, 10 May 1935.

[366] NAC, RG 84, Vol. 50, File BU211, pt. 2, A. G. Smith to J. B. Harkin, 4 June 1936.

[367] NAC, RG 84, Vol. 50, File BU211, pt. 2, J. B. Harkin to C. F. Bentley, 29 June 1936.

It was clear to others, however, that more than weather conditions or life cycles caused these fatalities. The high number of deaths was somewhat alarming in light of the crisis experienced by the Kaibab Forest Reserve in Arizona. In this reserve, deer had been under protection in a park void of predators. Numbering 3,000 to 4,000 in 1906, the deer, by 1924, had exploded to a population of 100,000 animals, which resulted in thousands dying from starvation.[372] Reflecting on the death of the deer in Buffalo National Park, Hoyes Lloyd, the Parks Branch ornithologist, referred to the report of the Kaibab Investigation Committee and deduced that the crisis in Arizona had much to do with overpopulation. Investigators "found that the range was so greatly depleted that it was in imminent danger of being totally destroyed." Lloyd then made the obvious connection to the situation at Buffalo National Park: "The Park is far too heavily populated with Buffalo, Elk, and Deer for the health of the animals, and if the existing overcrowding be permitted to continue, there is little doubt that Nature will take a decisive hand in reducing the herds in spite of human efforts to keep them in a healthy condition."[373]

---

[368] NAC, RG 84, Vol. 50, File BU217, pt. 1, Extracts from report of Dr. Clarke, September 1930. Quoted in Memorandum to J. B. Harkin, 15 Feb. 1933. It is not clear if Clarke thought the other animals should also be taken into account when the carrying capacity of the park was considered.

[369] NAC, RG 84, Vol. 50, File BU217, pt. 1, A. G. Smith to J. B. Harkin, 10 Feb. 1932 and Vol. 52, File BU233, pt. 2, A. G. Smith to J. B. Harkin, 6 June 1932.

[370] NAC, RG 84, Vol. 50, File BU217, pt. 1, A. G. Smith to J. B. Harkin, 10 Feb. 1932.

[371] NAC, RG 84, Vol. 50, File BU217, pt. 1, A. G. Smith to J. B. Harkin, 10 Feb. 1932.

[372] John P. Russo, *The Kaibab North Deer Herd: Its History, Problems and Management* (Phoenix: Federal Aid in Wildlife Restoration Act, 1964), 37, 45-46.

By the 1920s the deer and the elk began to compete with the buffalo for food. In his 1923 report of the park, Dr. Seymour Hadwen, pathologist, stated that Smith had informed him that "mule deer in the Park are now just about as numerous as the buffalo, and that they are eating up much of the food required by the buffaloes."[374] Years later, Smith began to question this initial assessment because deer were browsers and generally ate forage that was not preferred by buffalo. However, by 1933, the deer were so numerous that he had to admit that they depleted the food supply necessary for the buffalo.[375] Although the overpopulation of the deer was alarming, Smith was actually more concerned about the increasing elk population. While deer, under normal conditions, did not compete with the buffalo, Smith stated, "It is known that elk do some browsing, but they graze mostly in the summer, and in winter they associate with the buffalo on the feed yards, if possible, which is something the deer never do."[376] By 1937, the elk were jeopardizing the very effort to preserve the bison. R. A. Gibson, director of

---

[373] NAC, RG 84, Vol. 50, File BU217, pt. 1, Hoyes Lloyd to J. B. Harkin, 22 Aug. 1932.

[374] NAC, RG 84, Vol. 50, File BU217, pt. 1, Memorandum to J. B. Harkin, 15 Feb. 1933.

[375] NAC, RG 84, Vol. 50, File BU217, pt. 1, A. G. Smith to J. B. Harkin, 4 Feb. 1931 and Memorandum to J. B. Harkin, 15 Feb. 1933.

[376] NAC, RG 84, Vol. 50, File BU217, pt. 1, A. G. Smith to J. B. Harkin, 20 Mar. 1931.

Lands, Parks, and Forests Branch, reported that, "the Elk…have increased in great number on account of protection, and are actually depleting the fodder supply to an extent where it is impossible to provide pasturage for the buffalo for which the Park was established, and which are the justification for its maintenance."[377]

The presence of elk on the overpopulated range was also responsible for adversely affecting the health of the buffalo population in another way. In 1923, Hadwen named the parasite Fasciola Magna, or liver fluke, as the most serious disease, next to tuberculosis, found at Wainwright. The parasite, which seemed to attack elk, caused "malnutrition with a tendency to dropsy and anaemia" in its most advanced stage.[378] The elk and yak in the Home Paddock displayed acute symptoms of the disease. This incidence was likely induced by the small crowded conditions of the paddock since autopsies performed on birds and muskrats also showed that they were severely afflicted with the parasite.[379] W. E. Swales of the Animal Diseases Research Institute investigated the Visitor's Enclosure, made up of Mott Lake Enclosure and Home Paddock, and Peterson enclosure[380] from 1932-34 and found a species of snail, Fossaria, to be the primary host of this parasite. He determined that Mott Lake enclosure was the center of the infection.[381]

---

[377] NAC, RG 84, Vol. 55, File BU234, pt. 1, Quoted in Letter to F. H. H. Williamson, 14 Aug. 1937.

[378] NAC, RG 84, Vol. 58, File BU299-2, pt. 1, Seymour Hadwen to J. B. Harkin, 23 Feb. 1923.

[379] NAC, RG 84, Vol. 52, File BU233, pt. 2, A Summarized Report of the Investigation of Parasitism in the Animals at Buffalo Park, Wainwright, Alta., With Special Reference to the Life History and Control of the Large Liver Fluke (Fasciola Magna).

[380] Elk in the Peterson enclosure were also found to be infested with the liver fluke. NAC, RG 84, Vol. 52, File BU233, pt. 2, Thomas Cowan to J. B. Harkin, 21 July 1933. The Peterson enclosure was located on the eastern border, in the northeast section of the park just south of the Visitor's Park. See map in NAC, RG 84, Vol. 50, File BU38, pt. 1.

When Swales began his investigation of the park, he noted that the parasite did not seem to be found in the main buffalo park.[382] However, it was not long until the parasite had spread to the main buffalo herd. In the 1934-35 slaughter, livers of 28.4% of buffalo were condemned because they were infested with liver fluke.[383] By the 1937-38 slaughters, Inspector J. S. Bowie found that the parasite was occurring more often in the younger buffalo.[384] Most interesting was the fact that the buffalo were not a host to this liver fluke under normal conditions. Rather, Swales found that the presence of the elk, and possibly deer in the park, which were secondary hosts of the parasite, in combination with the overcrowded conditions of the range, were the reasons that the buffalo became afflicted with the parasite. He stated that the elk "constitute[d] a very real menace to the health of the buffalo when both species of animal [were] permitted to roam and graze at large, the contamination being communicated to the buffalo through faecula of the elk (or deer) being deposited on the grasses and in the waters of lakes and streams."[385]

---

[381] NAC, RG 84, Vol. 52, File BU233, pt. 2, Thomas Cowan to J. B. Harkin, 21 July 1933 and attachment to memorandum, Hoyes Lloyd to Mr. Powell, 11 May 1935.

[382] NAC, RG 84, Vol. 52, File BU233, pt. 2, A Summarized Report of the Investigation of Parasitism in the Animals at Buffalo Park, Wainwright, Alta., With Special Reference to the Life History and Control of the Large Liver Fluke (Fasciola Magna).

[383] NAC, RG 84, Vol. 52, File BU233, pt. 2, W. E. Swales to A. G. Smith, 18 Feb. 1935.

[384] NAC, RG 84, Vol. 52, File BU233, pt. 2, J. S. Bowie to A. G. Smith, 20 Jan. 1938.

[385] NAC, RG 84, Vol. 52, File BU233, pt. 2, attachment to memorandum, Hoyes Lloyd to Mr. Powell, 11 May 1935.

The presence of these other wildlife populations in Buffalo National Park, when added to the overpopulated buffalo herd, produced the second most significant crisis the park faced - the degradation of the range. By the 1920s, the availability of forage at Buffalo National Park had become a problem. As the quality of the range continued to deteriorate it began to take a noticeable toll on all the animals, but most importantly on the health of the buffalo. Range experts were consulted for their advice on how the damage of the range could be reversed, but few of their recommendations were ever followed. The cost of maintaining an overpopulated animal herd began to tax the effort and financial constraints did not allow for any improvements to be implemented.

It is clear that overpopulation of the animal herds was the primary cause of the deterioration of the range at Buffalo National Park. Dr. S. E. Clarke in his 1929 assessment of the park determined that the inferiority of the range was not caused by lack of vegetation. The area had a wide selection of nutritious forage: early and late grasses, fescue and legumes. He stated, "the range affords a wide selection of forage species, nearly all of which are quite palatable and highly nutritious."[386] However, the summer range was subjected to continual grazing pressure from early spring to late fall. Grazing in the early spring was especially detrimental because pressure on the range so early in the season did not allow for the grass to develop properly. Trampling by the animals, which destroyed seedling and encouraged water run-off, caused much of the deterioration. When grass was not permitted to develop, deep-rooted weeds of low forage value were able to take root. Clarke also stated that in the case of excessive trampling and close grazing, even weed growth was prevented. Lack of cover resulted in soil erosion. By 1929 Clarke noted that "large areas … are already in the perennial weed stage, and there are some patches of bare drifting sand (See Figure 8). Depletion may take place slowly, but under the existing climatic conditions, restoration will, at least, be equally slow."[387]

---

[386] NAC, RG 84, Vol. 50, File BU35, pt. 1, S. E. Clarke, Report on Investigation of Pasture Conditions at Buffalo Park, Wainwright, Alberta, Sept. 1929.

Glenbow Archives NA-1590-4

igure 8: Park Riders Riding Over Exposed Sand Dunes. Source: Glenbow Archives, NA- 1590-4

While the size of the animal population in the park was the primary reason for the overgrazing, the deterioration of the range was also accelerated by environmental factors that park officials could not control. In the 1920s, drought played the biggest role in the condition of the range. In the mid-1920s, the park continued to be plagued by exceptionally dry years that destroyed vegetation and left the range severely damaged. In 1926, Warden Cotton noted in his diary, "With recent dry years and the over-stocked condition of the park, it will take years for the range to come back to its former condition."[388] Even in 1927 when precipitation improved, the superintendent said "the effect of the dry years when carrying too large of a buffalo herd are [*sic*] still very evident."[389] The layout of the land, specifically the placement of water sources, also had an impact on how the animals utilized the range. Although there were many small lakes on the eastern and northern portions of the park, water was not readily available in the southwestern area of the range. The lack of water sources in the southwestern part of the range also forced the animals to travel longer distances for water and caused the areas near the small lakes to become over-grazed.[390]

---

[387] NAC, RG 84, Vol. 50, File BU35, pt. 1, S. E. Clarke, Report on Investigation of Pasture Conditions at Buffalo Park, Wainwright, Alberta, Sept. 1929.

In 1923, the first major investigation of the range was undertaken by Dr. Seymour Hadwen, of the Department of Agriculture, and Dr. Frederick Torrance, veterinary director general. Hadwen classified the range as "overgrazed" and recommended that new range be secured in order to allow the present range to recuperate. Both advised that the animal herds needed to be reduced in order to allow for the range to recover properly.[391] By the time S. E. Clarke made his assessment of the range in 1929 and 1930 the conditions of the range had grown worse. Although the park had some forage and the land was free from poisonous plants, he found prairie sage was prevalent on almost all areas of the range.[392] For Clarke, this indicated that the forage of the range was in its last stages:

---

[388] NAC, RG 84, Vol. 54, File BU232, pt. 4, Loss of Buffalo, Buffalo Park, Winter 1926-27.

[389] NAC, RG 84, Vol. 50, File BU217, pt. 1, Quoted in Memorandum to J. B. Harkin, 15 Feb. 1933.

[390] NAC, RG 84, Vol. 50, BU35, pt. 1, S. E. Clarke, Report on Investigation of Pasture Conditions at Buffalo Park, September 1930.

[391] NAC, RG 84, Vol. 50, File BU217, pt. 1, Extract from a report by Dr. Hadwen, 21 Feb. 1923 and extract from a report of Dr. Torrance 27 Mar. 1923. Quoted in Memorandum to J. B. Harkin, 15 Feb. 1933.

> Prairie sage,…that well known indicator of over grazing, is very prevalent on nearly all parts of the range….
>
> The greater part of the summer range has been over-grazed and the pasture seriously depleted. This condition is most marked on the short grass areas adjacent to watering places….Many of the hillocks and ridges are grey with Prairie Sage (Artemisia frigida) and Club Moss (Selaginella densa) plants that are of little or no forage value, while the grasses have been almost entirely killed out. Such weeds are indicators of over-grazing and while they are of little forage value they do prevent soil drifting, they represent Nature's final attempt to cover up her nakedness.[393]

This poor condition of the range quickly began to take a toll on the health of the buffalo herd. In 1923, Hadwen noted the poor condition of the buffalo. Ribs were visible on most of the animals. Evidence of this poor condition was also revealed during the slaughter of that year. With a lack of forage, buffalo had been forced to consume other forms of vegetation. Hadwen had noticed many of their "paunches were filled with willow twigs and browse, with the exception of those which were eating hay."[394] During the drought years, the poor condition of the buffalo became even more pronounced. In 1925, Superintendent Smith stated "This is the first winter we have noticed buffalo pawing snow like a horse, but that is the only way they can get through it and they have eaten tons of willow brush."[395] The gravity of the situation climaxed in the winter of 1926-27 when 256 buffalo perished. One official remarked that this high rate of mortality was neither unexpected nor avoidable: "[t]he condition of the herd had been poor for the last three or four years as a result of over-grazing of the Park and severe winters."[396]

---

[392] NAC, RG 84, Vol. 50, BU35, pt. 1, S. E. Clarke, Report on Investigation of Pasture Conditions at Buffalo Park, September 1929.

[393] NAC, RG 84, Vol. 50, BU 35, pt. 1, S. E. Clarke, Report on Investigation of Pasture Conditions at Buffalo Park, September 1929.

[394] NAC, RG 84, Vol. 58, File BU299-2, pt. 1, J. Memorandum to J. B. Harkin, 15 Feb. 1933.

[395] NAC, RG 84, Vol. 50, File BU217, pt. 1, Quoted in Memorandum to J. B. Harkin, 15 Feb. 1933.

The lack of food available in the park during the 1920s forced officials to feed the buffalo extra hay. Although the buffalo and other animals had been fed hay in the winter from the beginning of the effort,[397] the need to provide hay outside the winter season escalated as the herd increased in size and forage on the range grew scarce. In 1923, Torrance noticed that the animals were "reduced in condition at the close of the summer, and feeding hay [had] to be carried out to supplement what they [could not] obtain on the range."[398] Traditionally, Buffalo National Park supplied other national parks with feed after it had reserved enough hay for its own needs, but the park was no longer in a position even to provide food for itself during the 1920s.[399] Certainly drought contributed to this predicament. But the decision to ship buffalo north, a plan to alleviate pressure on the range, proved to be the greatest tax on the park's food supply.

In 1925, it was decided to ship 2,000 buffalo north to Wood Buffalo Park.[400] Although transporting buffalo out of the park was believed to be the most cost-effective means of reducing the herd, the decision created more food shortages and placed an even greater financial strain on the park. After 1,179 buffalo had been segregated for the shipment north in January 1925, Smith advised against rounding up any more buffalo. Segregating these animals was proving to be a huge drain on the food supply because the holding pens had no natural vegetation and the animals had to be fed extra feed. Furthermore, because primarily younger buffalo were sent north, these animals were separated from their mothers earlier than otherwise necessary. In 1925, Smith stated, "[o]ver 900 calves that, if they had not been separated, would have lived almost entirely on the cows, have since had to be fed daily."[401] He warned that if the department wished to continue segregating additional animals for the shipment the park would be out of feed in thirty to forty days.[402]

---

[396] NAC, RG 84, Vol. 54, File BU232, pt. 4, Memorandum to Hoyes Lloyd, 7 May 1927.

[397] NAC, RG 84, Vol. 51, File BU209, pt. 1, Howard Douglas to W. W. Cory, 15 June 1906. Before the first shipment from Montana was finalized, Douglas requested 500 tons of hay be prepared to feed the buffalo for the first winter. Perhaps this practice of supplementary feed inadvertently contributed to the overgrowth of the herd.

[398] NAC, RG 84, Vol. 50, File BU217, pt. 1, Memorandum to J. B. Harkin, 15 Feb. 1933.

[399] In 1918, a newspaper article reported that 8,000 bushels of oats were threshed at Buffalo National Park of which 2,100 bushels were shipped to other parks. That same year, 1,200 tons of hay were cut and stacked and permits were given out to settlers covering the cutting of 671 tons of hay. NAC, RG 84, Vol 53. File BU232, pt. 1, "537 Increase in Buffalo at Wainwright Park," *Edmonton Journal*, 11 Apr. 1918.

[400] NAC, RG 84, Vol. 52, File BU232-1, pt. 1, A. G. Smith to J. B. Harkin, 14 Oct. 1924.

Lack of available forage, and the necessity to supplement the buffalo with hay, began to put financial strain on Buffalo National Park. In 1925, the park did run out of hay as Smith predicted. Although no other animals were segregated, the park experienced a prolonged winter. The deep snow received that year meant that the range could not be grazed as early as usual. In March, Smith wrote a desperate telegraph to Harkin and informed his superior that hay needed to be procured immediately.[403] Park officials continued to be plagued with concern over the feed supply that summer. Although they had the same number of buffalo to feed as in the previous year, the park possessed only half the amount of hay. Smith stated,

---

[401] NAC, RG 84, Vol. 52, File BU232-1, pt. 1, A. G. Smith to J. B. Harkin, 10 Feb. 1925.

[402] NAC, RG 84, Vol. 52, File BU232-1, pt. 1, A. G. Smith to J. B. Harkin, 10 Feb. 1925.

[403] NAC, RG 84, Vol. 52, File BU232-1, pt. 1, A. G. Smith to J. B. Harkin, 18 Mar. 1925.

> You will, no doubt, recall that we were obliged to purchase one hundred tons of baled hay last spring to carry us through…and we have been obliged to cut down in our feeding to insure having sufficient to carry us until the new hay is harvested.… [This year] [t]here is absolutely no upland or prairie wool hay in the park to cut and the slough hay on the Ribstone Meadow will not be fit to cut until about the end of this month.[404]

Financial constraints began to contribute to the poor health of the herd. In 1926-27, the park experienced its hardest winter since its establishment. With snow pack and ice cover, officials were forced to supplement the buffalo with hay one month longer than usual. Once again, it was necessary for the park to purchase feed. However, because the park was not in the financial position to afford the better quality hay, officials were forced to purchase the inferior wheat straw from local farmers.[405] The quality of this feed began to take a noticeable toll on the health of the herd. Smith stated,

> Large quantities of wheat straw were fed to the animals during the month and, although the animals, if in good condition, will exist on this class of fodder, they show the effects of the lack of sufficient feed of a more sustaining quality. I believe this fact accounts for the comparatively high rate of loss [of buffalo] we sustained during this winter.[406]

Warden Cotton confirmed the effects that the lack of food was having on the herd. When segregating buffalo for shipment north in 1927 he described the "[a]nimals in semi-starved condition and hard to work as they go on the fight at the least provocation."[407] The same sentiments were echoed in a telegram to O. S. Finnie, director of Northwest Territories and Yukon Branch. The condition of the buffalo upon their arrival in Wood

---

[404] NAC, RG 84, Vol. 52, BU232-1, pt. 2, Memorandum to W. W. Cory, 15 July 1925.

[405] NAC, RG 84, Vol. 54, File BU232, pt. 4, Loss of Buffalo, Buffalo Park, Winter 1926-27.

[406] NAC, RG 84, Vol. 54, File BU232, pt. 4, A. G. Smith, Report of 20 April 1927, quoted in C. S. Nagle to Mr. Lloyd, 7 May 1927.

[407] NAC, RG 84, Vol. 52, File BU232-1, pt. 2, Extracts from the diary of E. J. Cotton, 25 Apr. 1927.

Buffalo Park that year was described as follows: "Buffalo in poor condition seemed to be starved."[408]

All the experts who were consulted on how to deal with the devastated state of the range agreed that the animal populations needed to be reduced and new range needed to be secured. Both Hadwen and Torrance recommended in 1923 that a new area be acquired. Clarke echoed this recommendation in his investigations in 1929 and 1930 when he advised that a new area in the eastern part of the park should be enclosed.[409] He also believed that the summer range should be divided into a north and south section so a system of rotational grazing could be implemented that would allow pastures to recuperate.[410]

While the recommendations would have helped reverse the trend in range degradation, by the 1930s, the financial situation of the park had not improved and park officials could not carry out the necessary improvements. Some smaller improvements were enacted. After Clarke recommended that additional watering places were needed to obtain more uniform grazing, a fence was moved to give the animals access to the Battle River, which provided slightly more pasture to the park. However, financial constraints did not permit any larger scale improvements to be made. In 1933, Hoyes Lloyd stated, "[o]wing to lack of funds we will not be able to go on with the fencing this coming summer, and, therefore, the grazing area cannot be increased." He continued: "[t]here can be no doubt that this is far too great a burden for the grazing area....For one reason or another, however, we have been unable to act upon the outstanding recommendations. We sought advice, but were unable to apply the remedy."[411]

---

[408] NAC, RG 84, Vol. 52, File BU232-1, pt. 2, D. H. Christie to O. S. Finnie, 23 June 1927.

[409] He recommended that the north half of township 42 and south half of township 43, range 5, and sections 7 to 12 of 43, range 6 should form this new enclosure. NAC, RG 84, Vol. 50, File BU217, pt. 1, Memorandum to Mr. Spero, 4 Mar. 1931.

[410] NAC, RG 84, Vol. 50, File BU217, pt. 1, Memorandum to Mr. Spero, 4 Mar. 1931 and Vol. 50, File BU35, pt. 1, S. E. Clarke, Report on Investigation of Pasture Conditions at Buffalo Park, September 1929 and S. E. Clarke, Report on Investigation of Pasture Conditions at Buffalo Park, September 1930.

It is clear that officials knew that, without any improvements, the health of the herd would continue to suffer. Harkin stated, "[i]n view of the overcrowding of the animals in Buffalo Park, it is essential for the sake of the animals themselves, as well as for the range, that the number of deer be materially reduced, and if no feasible outlet is presented it appears that the only relief will be by slaughtering the surplus."[412] Buffalo continued to be slaughtered, but the other animal populations, save the 311 elk that were killed in 1938, were not reduced. But even with attempts to downsize the buffalo herd, the range was never permitted to recover. In 1939, a year before the park closed, Dr. Hadwen observed that the winter grazing was good but the summer range was in very poor condition being covered with inedible weeds and prairie sage. He concluded that overgrazing from the past years and drought conditions experienced in recent years were responsible for the devastation of the landscape.[413]

With the addition of other wildlife animals to Buffalo National Park, the reserve fulfilled a national park wildlife policy that the preservation of buffalo did not. By performing the roles of both zookeepers and wildlife breeders, park officials paralleled the wildlife policy that had been initiated by Howard Douglas in the early mountain parks. The park displayed animals in the Visitor's Park to draw tourists while at the same time bred game animals to benefit other areas of the country. This prairie park, however, was never to implement this wildlife policy successfully. The inability of wildlife to move freely outside the borders meant that the game animals could not be utilized for the purpose for which they were placed in the park. Instead, they contributed to the park's overcrowded conditions. But, more importantly, park officials found their hands tied when it came to reducing the populations of other animals; because these animals were considered game species, it was never acceptable for park officials to slaughter them as they did buffalo.

---

[411] NAC, RG 84, Vol. 57, File BU299, pt. 9, Hoyes Lloyd to J. B. Harkin, 15 Feb. 1933.

[412] NAC, RG 84, Vol. 55, File BU234, pt. 1, J. B. Harkin to S. E. Clark, 6 June 1933.

[413] NAC, RG 84, Vol. 52, BU233, pt, 2, R. A. Gibson to Dr. Hadwen, 15 Sept. 1939.

While these other animals were to enhance the role Buffalo National Park played in preserving wildlife, the policy implemented to manage them actually did more harm than good. The culmination of the overpopulation of both buffalo and other animals was that the resource base of the park became damaged beyond repair. Experts advised methods that would alleviate pressure on the park's range, but the financial resources available to the Parks Branch did not suffice and thus remedies for recovery could not be implemented. By the 1930s, the result of living on a degraded range was taxing the health of all the animals. The buffalo, for which the park had been created, were in extremely poor condition. Smith stated,

> I think you will agree with me when I say that the overgrazed condition of our range will result in a herd of inferior animals. The change in the health of the herd, particularly the young animals, is evident in Inspector Waddy's report covering slaughter operations recently completed.--- The young animals in the herd to-day have not the rugged and healthy appearance of those the same age ten or fifteen years ago.[414]

---

[414] NAC, RG 84, Vol. 50, File BU217, pt. 1, Memorandum to J. B. Harkin, 15 Feb. 1933.

The addition of other animals, and the policies put in place to manage them had, in fact, compromised the buffalo preservation effort.

Chapter 6: "Evolving the Arctic Cow": Crossbreeding, Disease, and the Demise of Buffalo National Park

In 1916, the Parks Branch and Department of Agriculture initiated a crossbreeding experiment inside the borders of Buffalo National Park. The purpose of this project was to cross the plains bison with domestic bovines in hopes of creating a new breed of cattle – the cattalo[415] – that would be more adaptable to the cold Canadian climate while at the same time exhibit a better quality and quantity of beef. The introduction of this cattalo experiment was unique in the history of Canadian national parks. It reflected other scientific trials in this era to improve nature; at the same time that the Dominion government became involved in hybrid experimentation, other governments were conducting similar experiments in attempts to adapt plants and animals for human use.[416] In this era of scientific experimentation, these hybridization trials were a deliberate means by which the Dominion government tried to make the buffalo at Wainwright useful. The Parks Branch, however, considered the cattalo experiment as a separate initiative from the preservation effort; the cattalo experiment was a way to make the Wainwright buffalo beneficial without hindering or jeopardizing the effort to preserve the species.

This cattalo experiment introduced a number of problems and contradictions for the Parks Branch in its effort to preserve the plains bison. The endorsement of the decision to move the experiment to Buffalo National Park not only jeopardized the wildlife preservation effort in principle, but the placement of the experiment in an area designated for the preservation of the plains bison threatened the very health of the species. Furthermore, although disease, specifically tuberculosis, had been discovered in the buffalo before the cattalo experiment was moved to Wainwright, it seems plausible that the experiment after its relocation contributed to the high incidence of disease that would ravage the herd by the 1920s. Thus, the endorsement of such experimental work by the national parks system and allowing the experiment to be conducted inside the borders of Buffalo National Park raise serious questions when one considers the objective of this park was to preserve the plains bison. It is clear that the best interests of the plains bison herd were always subordinate to the focus the Parks Branch placed on the cattalo experiment.

---

[415] The term cattalo is used to define the progeny resulting from a cross between buffalo and domestic cattle. While Mossum Boyd, the hybrid experimenter from Bobcayegeon, Ontario, specified that this term should only be used to define offspring from parents that are both of mixed blood, the term had also been used loosely to connote hybrids and descendants from one pure parent. NAC, RG 84, Vol. 52, BU233, pt. 1, J. B. Harkin to Edmund Seymour, 4 July 1917 and Jorgen Nelson, "How Practical Are Cattalo? Buffalo and Domestic Cattle Have Long Been Crossbred," *American Feed and Grain Dealer* 30 (September 1946) 8.

[416] For example, the German government was carrying out experiments in crossing the zebu with domestic cattle to create an animal that would be immune to the tsetse fly, and the Department of Agriculture in Russia was experimenting with crossing Russian cattle of the steppes with yak. NAC, RG 17, Vol. 1249, 245817, W. W. Cory to G. F. O'Halloran, 2 Mar. 1914.

This lack of concern for preservation of the plains bison was exemplified by the Parks Branch's second, even more contradictory, decision that opposed the principles that the effort was supposed to represent. In the mid-1920s, over 6,000 plains bison from Wainwright, a known diseased herd, were shipped to Wood Buffalo National Park, home to the wood bison. The wood bison were considered by many to be the last wild buffalo on the continent and distinct from the plains bison. This decision had grave consequences. Not only did the Wainwright herd spread tuberculosis but it also interbred with the wood buffalo. Like the introduction of the cattalo experiment, this decision mars the preservation effort at Wainwright and calls into question whether the Parks Branch had any real preservation intention at all.

Buffalo-domestic cattle hybrids were by no means new to the twentieth century. The earliest account of this hybrid cross was recorded by Peter Kalm in 1750; he stated that calves of wild cows and oxen were found in Carolina and in provinces south of Pennsylvania. By 1800, such hybrids were said to be common in the northern counties of Virginia.[417] Much of the early hybridization between buffalo and cattle resulted from raising captured bison calves with domestic cattle herds.[418] In fact, the first hybrid on Michel Pablo and Charles Allard's ranch occurred because a buffalo bull and domestic cow were ranged together. Friends of Pablo recalled that he was "enthused over the new creature, and envisioned a profitable future for its kind. Other cattlemen were of like opinion, and carefully planned efforts to raise cattalo were made."[419] Eventually the Pablo-Allard cattalo herd numbered from 150 to 200 head.[420]

While most early hybrids occurred naturally when captured buffalo calves were raised with domestic cattle, soon more systematic attempts were undertaken to create a new breed of cattle. Beginning his trials in 1815 and continuing for almost thirty years, Robert Wickliffe of Lexington, Kentucky, was one of the first individuals to begin seriously experimenting with hybridizing buffalo.[421] While little is known of his success, in the 1890s two individuals became more famous and influential in their efforts in crossbreeding buffalo: C. "Buffalo" Jones of Kansas and Charles Goodnight of Texas.[422] Jones became involved in experimentation because he lost two-thirds of his domestic calves in a severe blizzard during the winter of 1885-1886. He stated, "I determined to engraft this blood of a hardy race upon our domestic cattle, and secure, if possible, all the hardiness and good sense of the buffalo and the mild disposition of our native cattle."[423] He devoted the next twenty years to producing a cattalo breed. Although the experiments were very costly and ran into many obstacles, Jones successfully bred buffalo to Galloway, Polled Angus, and range cows.[424] In 1906 he boasted, "Our cattalo company now [has] sixty head of magnificent animals; many of the cows weigh over a ton, and their meat is far more desirable than the choicest beef, while their robes are so much more valuable than the robes of the buffalo, that they cannot be mentioned in the same breath."[425]

---

[417] A. Deakin, G. W. Muir, and A. G. Smith, *Hybridization of Domestic Cattle, Bison and Yak* (Canada: Department of Agriculture, 1935), 5.

[418] For example, hybrids occurred in the herds of Frederick Dupree and James McKay and Charles Alloway. Coder, 5, 25.

[419] Whealdon, 118.

[420] Whealdon, 118. Some of their cattalo herd would have come from C. "Buffalo" Jones's stock. In 1893, Pablo and Allard purchased from Jones eighteen hybrid buffalo and twenty-six pure-bred buffalo. Coder, 39.

[421] Nelson, 9.

Colonel Charles Goodnight also crossed Polled Angus cattle with buffalo in hopes of developing a new breed of cattle.[426] He believed that the infusion of buffalo blood gave his hybrids several advantages over ordinary range cattle. Cattalo were hardy and able to withstand blizzards. They also had a better survival rate when in a weakened condition; cattalo, like buffalo, used their fore legs rather than hind feet to rise. He also believed cattalo to be immune from diseases that afflicted cattle herds, such as Texas Black Leg and Texan Fever. In terms of their beef qualities, they consumed less, but put on greater weight than domestic breeds, and did so even under adverse conditions where range cattle would not survive. He stated that his cattalo cut 150 pounds more than the domestic herds, and the meat was of better quality than beef. [427]

---

[422] Jones and Goodnight also experimented with crossing other animals as well. Goodnight crossed Persian broad-tail sheep with Karakul sheep. *Goodnight's American Buffalo Ranch, Goodnight Texas* (Dallas: H. A. Fleming & Co., 1910), 3. Jones also carried out hybridization experiments on sheep. He crossed Persian sheep with Shropshire and was considering crossing antelope and mountain sheep with the domestic sheep breeds. C. J. Jones, "Breeding Cattalo," *American Breeder's Association Annual Report* 3 (1907) 164-165.

[423] C. J. Jones, "My Buffalo Experiments," *The Independent* 60 (1906) 1355.

[424] George Bird Grinnell, "The Last of the Buffalo," *Scribner's Magazine* 12 (September 1892) 274.

[425] Jones, "My Buffalo Experiments," 1355.

[426] *Goodnight's American Buffalo Ranch*, 2-3.

While Buffalo Jones boasted that he was the first person to have conducted successful experiments to cross buffalo with domestic cattle, it appears that, in fact, Colonel Samuel Bedson of Manitoba began his experiments much earlier than Jones.[428] In 1880, Bedson, warden at the Stoney Mountain Penitentiary near Winnipeg, Manitoba, bought eight buffalo,[429] some of the progeny of the herd that had been captured by James McKay in 1873, with a $1,000 loan from the Chief Commissioner of the Hudson's Bay Company Donald Smith. He pastured these buffalo on the prison grounds and later began crossbreeding them with Durham cattle.[430] In 1886, the year when Jones claimed he began his experiments, naturalist Ernest Thompson Seton, in his publication *A List of the Mammals of Manitoba*, praised Bedson's hybrid crosses: "[t]he animal is claimed to be a great improvement on both of its progenitors, as it is more docile and a better milker than the Buffalo, but retains its hardihood, whilst the robe is finer, darker and more even, and the general shape of the animal is improved by the reduction of the hump and increased proportion of the hind-quarters."[431]

---

[427] Charles Goodnight, "My Experience With Bison Hybrids," *The Journal of Heredity* 5 (1914) 199.

[428] NAC, RG 84, Vol. 52, BU233, pt. 1, C. J. Jones to J. B. Harkin, 14 July 1917.

[429] Colpitts states that thirteen buffalo were purchased in 1878. George Colpitts, *Game in the Garden: A Human History of Wildlife in Western Canada to 1940* (Vancouver: UBC Press, 2002), 58. Coder, however, uses Bedson's own statement that eight buffalo were purchased. Bedson made this statement eight years after the buffalo had been purchased. Coder, 5, 49.

[430] Colpitts, *Game in the Garden*, 55-57.

George Colpitts argues that Bedson's motive behind raising buffalo and experimenting with hybridization resulted from the food scarcities that began to surface in the West in the 1870s; Bedson believed in the possibility of the buffalo-domestic cross as one of the only solutions to solving the food supply problem, which had been exacerbated with the near extermination of the bison. By the 1890s, Colpitts argues, interest in domestication and hybridization waned because of the increase in field crops and animal husbandry, availability of scientific advice, and the land booms that followed the election of a Liberal administration in 1896.[432] While Colpitts suggests that interest in hybridization ceased because it was no longer needed to maintain stability and social structures in Manitoba, in fact, there was still widespread interest in hybridization in Canada. From the time the Dominion government first purchased buffalo for Rocky Mountains Park in 1897, the Parks Branch had received various requests from private individuals to purchase buffalo for crossbreeding purposes.[433] In 1900, the Dominion government itself, through the Parks Branch, became linked to experiments in crossbreeding when they loaned Mossom Boyd, a man from Bobcaygeon, Ontario, an aged bull, for use in his private experiments.[434]

---

[431] Ernest E. Thompson, "A List of the Mammals of Manitoba," *Transactions of the Manitoba Scientific and Historical Society* 23 (May 1886) 11. This appears to be the same person as Ernest Thompson Seton. Colpitts, *Game in the Garden*, 58.

[432] Colpitts, *Game in the Garden*, 58-60.

[433] NAC, RG 17, Vol. 1249, 245817, Maxwell Graham to J. B. Harkin, 30 Nov. 1912.

[434] NAC, RG 84, Vol. 52, BU233, pt. 1, Howard Douglas to J. B. Harkin, 14 [Feb.] 1912. With the exception of Mossom Boyd, the Dominion government granted no other private requests for buffalo for crossbreeding purposes. NAC, RG 17, Vol. 1249, 245817, Maxwell Graham to J. B. Harkin, 30 Nov. 1912.

Boyd's cattalo experiment is most significant for the purposes of this thesis because it was taken over by the Dominion government in 1915 and moved to Buffalo National Park. Boyd began his hybridization experiment in 1894 when he crossed a purebred buffalo bull, which he had obtained the previous year from B. C. Winston of Monterey, California, with several different breeds of domestic cows.[435] The purpose behind his crossbreeding experiments resembled that of people who had pursued experiments before him - to produce a hardier breed of range cattle that would withstand "the severe climate of [the] Western Provinces, and also to combine the large carcass and the fine robe of the buffalo with the better beef qualities of the domestic breeds."[436] Of all the experiments up to this point, Boyd's appears to have been the most methodological. His experiment had three stages. The first stage involved crossing buffalo with domestic cattle. The second stage was to cross the hybrid product from the first stage with a purebred animal of either buffalo or domestic cattle descent. The final stage, the phase Boyd's experiment had reached by 1914, involved breeding two animals, both of mixed blood, with each other. Boyd identified the progeny from each stage by a different title. The animal resulting from the first cross was called a hybrid. In the second stage, the offspring was identified by the percentage of buffalo blood in the cross (i.e., ¾ buffalo). Boyd only called the animals produced in the third stage, where both parents were of mixed blood, cattalo.[437]

---

[435] Winston had also experimented in hybridization; Boyd saw four hybrids that were progeny of the bull that he purchased. NAC, RG 17, Vol. 1249, 245817, Mossum Boyd, "A Short Account of the Experiment of Crossing the American Bison with Domestic Cattle," 22 Jan. 1908.

[436] NAC, RG 17, Vol. 1249, 245817, G. Cust Boyd to Martin Burrell, 21 July 1914.

[437] Mossom M. Boyd, "Crossing Bison and Cattle," *The Journal of Heredity* 5 (1914) 189 and NAC, RG 84, Vol. 52, BU233, pt. 1, J. B. Harkin to Edmund Seymour, 4 July 1917.

Initially, the Parks Branch's interest in hybridization was one of curiosity. When, in 1903, Boyd requested another buffalo for his experiment in exchange for two hybrid heifers,[438] Howard Douglas, superintendent of Rocky Mountains Park, agreed because he thought the addition of the hybrids would make Rocky Mountains Park unique. He stated,

> Since the Park is Keeping animals for the public interest and amusement these animals might as well be made to serve a further useful purpose[.] This would be something in line with the work done by Government experimental farms and would distinguish the Banff Park from those in the United [States] in [which] every principal city has a small herd of pure Buffaloes[.][439]

But the interest of the Dominion government in these experiments soon moved beyond mere amusement. In 1911, the two hybrid heifers were disposed of because F. H. Byshe, of the Department of the Interior, thought the government's focus should be on developing purebred animals and the hybrids "detracted from the impression made upon visitors by the pure breds."[440] However, the slaughter of these two hybrids probably created even more interest in this field of experimentation. When the two hybrids were slaughtered Douglas stated that there was a great deal of interest in the meat quality; the butcher was impressed and stated he had never seen beef so fat.[441] Douglas concluded that "this would go to prove that a cross of this nature would be very beneficial for beef purposes…[and] would seem to justify a further carrying [out] of an experiment of this kind."[442]

---

[438] NAC, RG 84, Vol. 52, BU233, pt. 1, Howard Douglas to J. B. Harkin, 14 [Feb.] 1912

[439] NAC, RG 84, Vol. 52, BU233, pt. 1, Howard Douglas to James A. Smart, 15 Oct. 1903.

[440] NAC, RG 84, Vol. 52, BU233, pt. 1, F. H. Byshe to J. B. Harkin, 12 Dec. 1911.

[441] NAC, RG 84, Vol. 52, BU233, pt. 1, Howard Douglas to A. B. MacDonald, 3 Feb. 1912 and Howard Douglas to J. B. Harkin, 7 Feb. 1912.

Thus, the Dominion government became interested in pursuing their own crossbreeding experiments because of the potential to make the Dominion buffalo herd at Wainwright useful. J. B. Harkin, commissioner of the Parks Branch, believed that the hybrid experiments might result in the production of a beef animal of greater quality than the present domestic types, and began exploring the possibilities of crossing buffalo with cattle in 1912. He stated, the "Department [would] sooner or later be subject to criticism if it takes no steps on these lines but simply maintains the buffalo for show purposes."[443] By 1918, when the experiment was already in full swing, one park official confirmed the purpose behind the experiment: "[w]hile the buffalo has a very distinct value as it stands…various schemes for making the herd of additional value to the people of the west are under consideration. In the first place experiments in cross-breeding are now being carried on at Buffalo Park."[444]

For the Parks Branch, the cattalo experiment was not only a means to make the buffalo herd useful, but also an excuse for the Parks Branch to refuse to supply private individuals with buffalo for their own experiments. Harkin believed that the department would continue to get requests for buffalo. By proving that the government was involved in undertaking experiments, the Parks Branch hoped to appease the public. Up to this point, neither the United States nor Canadian government had attempted any experiments. But there had been many amateur attempts in the United States that had done more harm than good. Such experiments were known to be, and were often plagued by, failure, and the Parks Branch was not willing to have anything taint the experiments they were attempting. Unlike the United States, the Parks Branch had the ability to limit private experimentation in Canada because the Dominion government had a monopoly on the herd. But the Parks Branch realized that the department could not take on their crossbreeding venture alone. Maxwell Graham, chief of the Parks Branch animal division, believed that crossbreeding should be carried out by experts, namely the Department of Agriculture since this department had the necessary facilities, equipment, and staff to carry out such an experiment.[445]

---

[442] NAC, RG 84, Vol. 52, BU233, pt. 1, Howard Douglas to J. B. Harkin, 7 Feb. 1912.

[443] NAC, RG 84, Vol. 52, BU233, pt. 1, J. B. Harkin to W. W. Cory, 27 Jan. 1912.

[444] NAC, RG 84, Vol. 982, BU2[548608], pt. 2, Memorandum to Mr. Mitchell, 29 Apr. 1918.

Like the Parks Branch, the Department of Agriculture was interested in pursuing the experiment, but for very different reasons. It believed that such trials had great value for the future of the cattle industry and would put their department on the cutting edge of scientific advances in hybridization. E. S. Archibald, who became director of experimental farms in 1919 when J. H. Grisdale moved into the position of deputy minister of agriculture, stated,

> There is no doubt that the quality of beef and the quantity of high quality beef from these cross-breds is exceptionally good, that the hides will eventually be quite valuable, and the hardiness of all cattle containing a small percentage of buffalo blood would be increased. Aside from this, this line of hybridizing is one which will give excellent correlative figures for all classes of domesticated animals. At the present time no new work in breeding of an experimental nature is being anywhere undertaken, and this would seem a very desirable field; one which would give valuable data of a scientific character.[446]

---

[445] NAC, RG 17, Vol. 1249, 245817, W. W. Cory to G. F. O'Halloran, 2 Mar. 1914, RG 84, Vol. 52, BU233, pt. 1, J. B. Harkin to W. W. Cory, 27 Jan. 1912, Maxwell Graham to J. B. Harkin, 30 Nov. 1912 and J. B. Harkin to W. W. Cory, 11 Dec. 1912.

[446] NAC, RG 17, Vol. 1249, 245817, E. S. Archibald, Memo. Re: Buffalo Cattle Hybrids, 18 June 1915.

In 1914, it was suggested by Graham that perhaps Mossom Boyd's services could be procured to help begin the crossbreeding experiment. That summer, however, Boyd passed away. Since his family was unable to continue his cattalo experiment, Boyd's son G. Cust Boyd, executer of his father's will, approached Martin Burrell, the minister of agriculture, to see if the government would be interested in taking over his father's experiment. Both the Parks Branch and the Department of Agriculture were interested in acquiring Boyd's experiment. The advantage with acquiring his experiment was that the great expense involved in starting an experiment and the many initial difficulties that Boyd, and other experimenters, had encountered – the high percentage of mortality among calves and the problems of sterility – had already been overcome. Thus, in December 1915, the Department of Agriculture purchased twenty head, sixteen females and four males of mixed blood, from the estate of Mossom Boyd. These animals were shipped from Ontario to the Experimental Farm in Scott, Saskatchewan where the herd was held until land was made available at Buffalo National Park.[447]

The cattalo experiment was taken on as a joint venture by the Parks Branch and the Department of Agriculture. The experiment was to be funded and the breeding overseen by the Department of Agriculture, but J. B. Harkin offered the full cooperation of the Parks Branch. He not only guaranteed that land at Buffalo National Park would be turned over to the experiment, but also promised the Department of Agriculture, upon application, any buffalo needed for hybridizing or crossing purposes.[448] The suggestion that the experimental farm be set up at the Wainwright park seems to have first come from J. H. Grisdale, director of the Agriculture Experimental Farms.[449] The main reason for locating the experiment in the park was that it was the most practical, cost-effective, and feasible solution for the Department of Agriculture. At Wainwright, there was an endless supply of buffalo. Furthermore, while the cost of Boyd's herd was minimal, the cost of land and fencing was considerable. E. S. Archibald noted that, "[i]f Crown land could be used for this experiment the cost of a number of years' work would be comparatively light and the results would be worth many times the expenditure."[450]

---

[447] NAC, RG 17, Vol. 1249, 245817, J. H. Grisdale to George F. O'Halloran, 11 May 1914, Ernest Heaton to Martin Burrell, 22 July 1914, G. Cust Boyd to Martin Burrell, 21 July 1914, J. H. Grisdale to Deputy Minister, Department of Agriculture, 31 Aug. 1914, E. S. Archibald, Memo. Re Buffalo Cattle Hybrids, 18 June 1915, Memo. Re Cattalo, 5 Jan. 1916 and RG 84, Vol. 52, BU233, pt. 1, Note from Maxwell Graham, 25 July 1914 and E. S. Archibald to J. B. Harkin, 26 Nov. 1915.

Even the Department of Agriculture felt that the purpose of the experiment would be questioned if conducted in its sector. The cattalo experiment was placed in the Buffalo National Park because Grisdale feared that conducting the work on one of the Dominion's experimental farms might "discredit the [experimental farms] in the eyes of the public."[451] Thus even those in the Department of Agriculture recognized that the cattalo experiment was a manipulation of the plains bison as a species. It is interesting that there was no objection over locating this experiment in a national park. Clearly the principles of preservation that were held by the Parks Branch at this time were even less than those at the experimental farms. Interestingly, even though the experiment contradicted the principles of wildlife preservation that the national parks system claimed to be built upon, the introduction of the experiment to the Wainwright park was not even questioned. The experiment was believed to hold "great possibilities of improvement to the beef cattle industry of this country through judicious breeding and selection in crossbreeding experiments with the bison….[and] the fruits of such experiments could later be made available to every farmer and rancher desiring to profit thereby."[452]

---

[448] NAC, RG 84, Vol. 52, BU233, pt. 1, J. H. Grisdale to J. B. Harkin, 29 Oct. 1917 and J. B. Harkin, to E. S. Archibald, 3 Dec. 1915 and RG 17, Vol. 1249, 245817, Memo. Re: Cattalo, 5 Jan. 1916.

[449] NAC, RG 17, Vol. 1249, 245817, J. H. Grisdale, to George F. O'Halloran, 11 May 1914.

[450] NAC, RG 17, Vol. 1249, 245817, E. S. Archibald, Memo. Re Buffalo Cattle Hybrids, 18 June 1915.

[451] Up to this point, it appears that trials at the experimental farms had more to do with feeding experiments, not crossbreeding. NAC, RG 17, Vol. 1249, 245817, J. H. Grisdale to Deputy Minister, Department of Agriculture, 31 Aug. 1914 and J. H. Grisdale to Mr. O'Halloran, 13 Sept. 1915.

Yet there is another reason the Parks Branch never considered the experiment to be a manipulation of the bison species or its involvement in the trials a conflict of interest. This Parks Branch considered the cattalo experiment to be a separate operation from the buffalo preservation effort. Although both were operating in the same area, and the buffalo preservation effort in a sense was supporting the cattalo experiment by supplying buffalo, the experiment was to be operated and managed by the Department of Agriculture. Thus for the Parks Branch the set-up was an ideal way to make use of the Dominion's buffalo herd while, at the same time, not jeopardizing the effort to preserve the plains bison.

Soon after their arrival at Wainwright, Boyd's cattalo were exhibiting characteristics that were seen as proof of the worth of the animals and the value of the experiment. In 1920, A. G. Smith stated that they were in first class condition after the winter despite having never been fed.[453] He stated, "[t]here were times coming on toward spring when the crust would get [so] bad that I thought we would have to begin feeding them, but they came through without getting one pound of feed other than what they rustled, and I will venture to say very few animals in the West did that this year."[454]

---

[452] NAC, RG 84, Vol. 54, BU233, pt. 2, Maxwell Graham, Experimental Crossing of Bison (or Buffalo) with Domestic Cattle, n. d.

[453] NAC, RG 84, Vol. 54, BU233, pt. 2, A. G. Smith to E. Hunter, 10 Mar. 1920.

CATTALO
Glenbow Archives NC-37-107

Figure 9: Cattalo in Buffalo National Park. Source: Glenbow Archives, NC-37-107.

While Boyd's cattalo were showing promise, a number of problems with the management of the experiment surfaced almost immediately, for it was a jointly run effort. The Parks Branch prepared the enclosure prior to the arrival of the animals and took charge of feeding and caring for the animals. The cost of running the experiment and the breeding decisions were to be the responsibility of the Department of Agriculture. In practice, however, the Parks Branch wielded much more power. Part of this was due to the lack of communication between the two departments. The Department of Agriculture had no onsite staff. Only a herdsman, James Wilson, was hired to look after the cattalo. The others involved in running the experiment were park employees. A. G.

---

[454] NAC, RG 84, Vol. 54, BU233, pt. 2, A. G. Smith to E. S. Archibald, 10 May 1920.

Smith was paid a salary to oversee the experiment at the park level and do office work, and Park Riders from time to time were called on to help with operations.[455] As a result, much of the decision-making was left to those at the local park. In 1918, Smith wrote Harkin in frustration stating, "[t]his experiment if it is to be carried out properly requires something more than feeding the animals and I did not understand from you that I was to continue on in charge of these animals after they were transferred."[456]

Thus, it should not be surprising that Smith's influence went beyond mere animal care. In fact, in 1920 Smith outlined the procedure of that year's breeding program. When, in March, he had not heard yet from Archibald about how the breeding program should proceed that year, he wrote him and offered his opinion about how the animals should be distributed and suggested that some new young bison should be added to the experiment. When Archibald informed Harkin of the breeding plan, all of Smith's recommendations had been followed to the letter.[457] Maxwell Graham, chief of park animals, was obviously not impressed with the state of operations at the park. Even prior to 1920, he informed Harkin that Smith, by offering his opinions on breeding advice, was overstepping the bounds set out in the original agreement: "[t]hese experiments, if so they can be called, have been carried out no more scientifically than were those of long ago under the rough-ready systems of Chas. Goodnight and Buffalo Jones."[458]

---

[455] NAC, RG 84, Vol. 54, BU233, pt. 2, Maxwell Graham to E. S Archibald, 4 July 1921, RG 84, Vol. 52, BU233, pt. 1, J. H. Grisdale to J. B. Harkin, 29 Oct. 1917 and RG 17, Vol. 3456, 30-9-1(1), Letter to Dr. Barton, 20 Nov. 1939.

[456] Quoted in, NAC, RG 84, Vol. 52, BU233, pt. 1, Maxwell Graham to J. B. Harkin, 1 Mar. 1918.

[457] NAC, RG 84, Vol. 54, BU233, pt. 2, A. G. Smith to E. S. Archibald, 24 Mar. 1920, E. S. Archibald to J. B. Harkin, 15 May 1920 and A. G. Smith to E. S. Archibald, 27 May 1920.

[458] NAC, RG 84, Vol. 52, BU233, pt. 1, Maxwell Graham to J. B. Harkin, 1 Mar. 1918.

The trials themselves also faced several setbacks. The most serious was the problem of infertility among the animals of the Boyd herd. By 1925, none of the animals had produced any offspring. G. B. Rothwell, Dominion animal husbandman, wrote, "every effort has been put forth toward the increase of this herd, all combinations of sires have been used, females have been subject to regular examination and treatment by veterinarians expert in the treatment of abnormal genital conditions. In spite of these efforts, no increase has been obtained from the original herd."[459] It was not determined what caused the animals of the Boyd herd to become infertile.[460] One of the main reasons for purchasing the herd was to avoid the obstacles and expense involved in the initial stages of the experiment, but the Department of Agriculture and the Parks Branch were forced to start again from scratch.

Because the experiment had to begin from square one, a number of obstacles that the department had hoped to avoid with the first cross were encountered. The cross between a bison male and domestic female resulted in a high mortality among calves that were either aborted or stillborn. The cause of these deaths was attributed to an excessive amount of amniotic fluid. The cross was termed the "violent cross" because the cows often succumbed as well.[461] Initially, this was the only cross experimented with, possibly because Colonel Goodnight had claimed that the reverse cross was not possible.

---

[459] G. B. Rothwell, *Report of the Dominion Animal Husbandman for the year ending March 31, 1924* (Ottawa: Department of Agriculture, 1925), 57.

[460] Several suggestions were offered as reasons for the infertility of the Boyd herd. The infertility of the females was thought to have been caused by increased age of the animals, their continually open state, and the high condition of the animals due to the good grazing in the enclosures. Rothwell, 57. It was also suggested that the continual moves that the herd had been subjected to (from Ontario to Saskatchewan to Wainwright) might also be a reason that the herd was not breeding. NAC, RG 84, Vol. 52, BU233, pt. 1, A. G. Smith to A. G. Sinclair, 21 Jan. 1919.

[461] Rothwell, 56, 59.

However, the high mortality of cows led to the discontinuation of the cross in favour of domestic sire and buffalo cow, with which the Dominion government had more success.[462]

While females were common from a first cross and were found to be fertile when crossed with either a pureblood bison or domestic bull,[463] infertility of the males was a problem that the cattalo experiment was never able to overcome. A report in 1955 stated that no fertile bulls resulting from the first cross were ever found.[464] In fact, sterility among males from subsequent crosses was also high. Sterility proved to be a huge problem in view of the fact that the success of the experiment hinged on fertility of both the males and females. The method followed was to cross the fertile heifers resulting from the first cross and subsequent crosses until a fertile bull was obtained. However, fertility success continued to be problematic as often 7/8 domestic males and occasionally 15/16 domestic males were still found to be sterile.[465]

The problem with infertility among the male hybrids was the main reason it was decided to introduce yak into the experiment. Maxwell Graham, in agreement with R. I. Pocock, curator of mammals at the Regent's Park Zoological Collection in London, believed yak, a native animal of Tibet, to be the zoological link between bison and domestic cattle.[466] Rocky Mountains Park had a yak herd on display and so it was arranged to have some shipped to Buffalo National Park for use in the experiment. In May 1919, two cows, two bulls, and a bull calf were transferred to Buffalo National Park.[467]

---

[462] Rothwell, 59 and Nelson, 9. The Department of Agriculture corresponded with Colonel Goodnight over the years and sought advice for its experiments. Archibald could not understand why the Dominion government had been able to cross a domestic sire with a buffalo dam, something Colonel Goodnight claimed was not possible. However, he was equally puzzled as to why they were experiencing so much loss with the opposite cross, with which Goodnight had experienced so much success. NAC, RG 17, Vol. 3456, 30-9-1(1), E. S. Archibald to Dr. Grisdale, 29 June 1928.

[463] Rothwell, 56.

[464] H. F. Peters, *Range Experimental Farm, Manyberries, Alberta, Progress Report, 1948-1953* (Ottawa: Experimental Farms Service, Department of Agriculture, 1955), 20.

[465] Nelson, 9.

The yak had no feature considered desirable. They were added to the experiment only in an effort to counteract the sterility of the males.[468] The objective was to "develop males carrying a maximum of Bison and a minimum of Yak blood, that [would] prove fertile and prepotent when crossed on Domestic range cattle."[469] In 1923, the park began to see some results from its experiments in hybridizing: five heifers and one bull from a yak bull-domestic cow cross, two heifers from a buffalo bull-domestic cow cross, and one heifer from a yak bull-buffalo cow cross.[470] Initially, this new scheme seemed to be making headway and in 1927, a *MacLean's Magazine* article entitled "Evolving the Arctic Cow" boasted of the strides the experiment was making towards developing a cattle breed for the Dominion's more northerly climates.[471] It is interesting that the introduction of yak into the breeding scenario was never considered an intrusion of non-indigenous species. Not until 1937, did Superintendent A. G. Smith express the opinion that the yak should be removed from the parks as only native animals should be found in national parks.[472] In 1931, it was finally decided to discard the yak and return to only crossing buffalo and domestic cattle because the yak was not considered to have added anything valuable to the experiment.[473]

---

[466] NAC, RG 84, Vol. 52, BU233, pt. 1, Maxwell Graham to J. B. Harkin, 15 Mar. 1918.

[467] NAC, RG 84, Vol. 52, BU233, pt. 1, J. M. Wardle to J. B. Harkin, 19 June 1919. Yak were first introduced into the national park system in 1909 when the Duke of Bedford presented a small herd to the Dominion government. The animals were shipped from England and placed on an experimental farm in Brandon, Manitoba. However, the fact that females were not producing offspring was believed to have been caused by the low altitude. The herd was transferred to the Parks Branch and move to Rocky Mountains Park where the herd began to breed again. NAC, RG 84, Vol. 55, BU241, pt. 1, E. S. Archibald, The Yak in Canada, n. d.

[468] NAC, RG 84, Vol. 54, BU233, pt. 2, Cross Breeding Experiments at Buffalo Park, Wainwright, Alta, n.d. and RG 17, Vol. 3456, 30-9-1(1), E. S. Archibald to Dr. Grisdale, 22 Dec. 1923.

[469] NAC, RG 84, Vol. 54, BU233, pt. 2, Cross Breeding Experiments at Buffalo Park, Wainwright, Alta, n.d.

[470] NAC, RG 84, Vol. 54, BU233, pt. 2, Experimental cross-breeding of bison (buffalo) with domestic cattle, yak, etc., n.d.

[471] Alan N. Longstaff, "Evolving the Arctic Cow," *MacLean's Magazine*, 15 Jan. 1927, 21.

While there had been no objections to move the cattalo experiment to Buffalo National Park, even though this decision clearly breached the preservation principles that the national parks system claimed to uphold, there was much debate within the Parks Branch and between this branch and the Department of Agriculture over the risk that the cattalo experiment posed to the buffalo in terms of introducing disease. By the 1920s, it was clear that the buffalo preservation effort at Wainwright was seriously being compromised by the presence of tuberculosis. The first case of tuberculosis in the park was discovered in the postmortem of a buffalo bull on 20 December 1916.[474] Following this discovery, tuberculosis was suspected in many of the buffalo that exhibited enlarged joints.[475] While there was no evidence of how tuberculosis was introduced into the Wainwright park, there were various perceptions at the time about how the disease might have been spread.

---

[472] NAC, RG 84, Vol. 55, BU241, pt. 1, A. G. Smith to J. B. Harkin, 26 Oct. 1937.

[473] NAC, RG 84, Vol. 55, BU241, pt. 1, F. H. H. Williamson to Raymond Armstrong, 29 Mar. 1938.

[474] University of Alberta Archives (hereafter UAA), 2002-18-4, T.B. at Buffalo Park between December 1916 to January 1st, 1922.

[475] The handwritten notes in the margin of this memorandum, which indicate that tuberculosis was suspected, appear to belong to Maxwell Graham. NAC, RG 84, Vol. 53, File BU232, pt. 1, A. G. Smith to J. B. Harkin, 8 June 1917.

Tuberculosis most likely spread to the Wainwright herd when buffalo were imported from the Banff herd during the purchase years. The disease first surfaced in the national park system in 1910, when Graham reported that five buffalo died from it in Canadian parks. The only parks that kept buffalo at that time were Rocky Mountains Park, Elk Island Reserve, and Buffalo Park Reserve. Since no tuberculosis was confirmed in Buffalo National Park until 1916 and the Elk Island herd was free from the disease it is likely that the five animals that died of tuberculosis were from the Banff herd.[476] It was also suggested that the disease might be traced back to the 1890s when some of the last wild buffalo calves were captured since they had all been fed on domestic cow milk.[477] However, tuberculosis does not appear to have been transmitted by this means. If, indeed, the source of the disease was Rocky Mountains Park, the Banff herd must have contracted tuberculosis after 1907. During the first Montana shipment to Elk Island Reserve it was arranged to have one car of buffalo bulls and cows shipped to Rocky Mountains Park in exchange for a carload from this park with an equal number of bison from that herd to go to Elk Island Reserve. Even after this shipment from Rocky Mountains Park, the Elk Island herd managed to remain disease-free. If the Banff herd contracted the disease after 1907, one or both of the shipments of buffalo that came from that park could have infected the Wainwright buffalo. Seventy-seven buffalo were transferred from Rocky Mountains Park to Wainwright on 31 October 1909 and ten on 31 March 1914.[478]

---

[476] NAC, RG 84, Vol. 52, File BU232, pt. 1, Maxwell Graham to J. B. Harkin, 3 Aug. 1912 and Report, The Canadian Government Buffalo Herds for Calendar Year Ending Dec 31, 1915, Vol. 52, File BU233, pt. 2. Report of Dr. Seymour Hadwen on Elk and Wainwright Parks, Memorandum, 15 Sept. 1939 and C. H. D. Clarke to Hoyes Lloyd, Memorandum, 15 Mar. 1940.

[477] NAC, RG 84, Vol. 52, File BU233, pt. 2, C. H. D. Clarke to Hoyes Lloyd, 15 Mar. 1940.

C. H. D. Clarke, mammalogist for Parks Branch, also suggested that the Pablo herd may have been exposed to the disease and the Elk Island portion of the herd had avoided the disease by pure luck.[479] While this scenario seems unlikely, closer investigation shows that this view point may have had some merit, given that members of the original Montana herd were found to have tubercular lesions which appeared to have healed. J. B. Harkin saw this as evidence that the Pablo buffalo had been exposed to tuberculosis in Montana when they were pastured on the open range with cattle:

> The lungs of many of the older animals showed many scars where active tubercular conditions had become calcified and the disease was in many cases arrested and not active. It was the general opinion that the animals were affected when they were first put in the Park, but the disease had not developed sufficiently to make it at all noticeable unless under special test or postmortem examination.[480]

The herd's exposure to tuberculosis prior to arriving in Wainwright may explain how the herd became infected so quickly and extensively. Perhaps the reason why the Parks Branch did not catch the possible diseased state of the Pablo herd was that bison do not seem to be susceptible to tuberculosis in the same way as cattle. While Seymour Hadwen, pathologist, argued in 1923, that the entire herd should be considered tubercular, he was surprised to find the herd in such good condition: "[t]aking the herd as a whole (ante mortem), however, the disease does not show as markedly as one would expect. It is true that here and there one may see an emaciated coughing animal, but as a general thing the disease is not in great evidence."[481]

---

[478] NAC, RG 84, Vol. 51, File BU209, pt. 4, Howard Douglas to W. W. Cory, 22 Apr. 1907 and Vol. 51, File BU209, pt. 3, Publicity Division to Mr. Campbell, Memorandum, 31, Aug. 1924.

[479] NAC, RG 84, Vol. 52, File BU233, pt. 2, C. H. D. Clarke to Hoyes Lloyd, 15 Mar. 1940.

[480] NAC, RG 84, Vol. 58, BU299-2, pt. 1, J. B. Harkin to W. W. Cory, 23 May 1923.

Even though it cannot be determined with absolute certainty how the tuberculosis was spread to the buffalo, it is unlikely that the cattalo experiment was the source, as the first case of tuberculosis at the Wainwright park was confirmed just prior to the arrival of the cattalo herd in Wainwright on 30 December 1916.[482] Cattle, however, may have exacerbated the incidence of tuberculosis when they were brought to Buffalo National Park after 1916 and were not tested for the disease. Not until 1924 did George Hilton, veterinary director general, suggest to J. H. Grisdale, deputy minister of agriculture, that it might be good to bring to the "attention of the Parks Branch the desirability of testing any cattle that may be brought on to the Park premises for breeding experiments."[483] So even though the cattalo may not have initially introduced tuberculosis to the buffalo herd, lack of precaution with the addition of domestic cattle to the experiment may have been responsible for accelerating the spread of disease among the buffalo. There is no way to determine if, and the extent to which, the disease was spread from the cattalo experiment to the buffalo herd. Much, however, can be learned about the perceptions of disease at this time through the debates that surfaced between government officials in the Parks Branch and Department of Agriculture over the relocating of the cattalo experiment inside Buffalo National Park.

---

[481] NAC, RG 84, Vol. 58, BU299-2, pt. 1, Seymour Hadwen to J. B. Harkin, 21 Feb. 1923.

[482] NAC, RG 84, Vol. 52, BU233, pt. 1, A. G. Smith to J. B. Harkin, 3 Jan. 1916.

[483] NAC, RG 17, Vol. 3456, 30-9-1(1), George Hilton to J. H. Grisdale, 2 Jan. 1924. Animals were added to the cattalo experiment prior to 1924. In October 1919, E. S. Archibald wrote, "[w]ithin the past year or so we have added to the enclosure for the cattalo herd at Buffalo Park, Wainwright, Alta., ten domestic cows … and a bull, and five yak." The letter does not indicate that they were tested for tuberculosis. NAC, RG 84, Vol. 52, BU233, pt. 1, E. S. Archibald to J. B. Harkin, 27 Oct. 1919.

Two people who had serious reservations about moving the experiment to the park because of the danger it posed to the health of the buffalo herd were C. Gordon Hewitt, the Dominion entomologist, and Maxwell Graham, chief of park animals. In 1916, Hewitt gave a very stern warning about locating the cattalo experiment to the Wainwright park:

> I would call your attention to the great importance of taking every precaution to prevent contact between the domestic cattle used in these experiments and the buffalo range. The enclosure in which the buffalo and cattle used in these experiments should, in my opinion, be separated by a double fence from the regular buffalo range, with a considerable interval between, to avoid not only direct contact but the possibility of the transference of organic material of any kind from the enclosure to the range. If precautions are not taken an outbreak of disease among the domestic cattle might result in the decimation of the buffalo, which like all wild animals, are exceptionally susceptible to diseases of domestic animals.[484]

Although Graham was very much in favour of the experiments, he also expressed concern over moving the cattalo experiment to Wainwright. He granted there was always a certain risk for introduction of disease from outside Buffalo National Park, but felt that the introduction of animals from Ontario posed an even greater risk, especially since animals could be carriers of disease even if immune themselves. He warned "I now desire to point out that if such action is taken, the herd of bison, now over 2000 in number at Buffalo Park, will incur considerable additional risk of becoming infected with some variety of infectious disease." Then in a prophetic warning he stated, "I would also point out that when an infectious disease is once brought into a large herd, the losses become very high, because it is difficult, if not impossible, to check it after it has once obtained a foothold….I most strongly recommend that some other area than that proposed in Buffalo Park be set aside for cross-breeding purposes."[485]

---

[484] NAC, RG 84, Vol. 52, BU233, pt. 1, C. Gordon Hewitt to J. B. Harkin, 2 Feb. 1916.

It is clear that J. H. Grisdale, director of experimental farms, did not take the warnings about the spread of disease that seriously. He considered Hewitt and Graham agitators since their objections were raised after the herd had been purchased. Grisdale argued that the arrangement to continue the experiments had been contingent on the availability of land in the park. He stated that, "if it had not been agreed that the herd was destined for Wainwright, to occupy an enclosed portion of the Buffalo Park there, we would have not arranged for its purchase."[486] He continued, "I am of the opinion that the objections raised to the arrangement agreed upon are not really very serious."[487] In a letter to Harkin, he questioned some of the precautionary measures that had been recommended. He did not see the need to separate the cattalo enclosure from the main buffalo herd with a double fence when the park itself was only separated from the land outside by a single fence. He did not consider the cattalo herd any more of a threat than livestock outside the park borders. Furthermore, he stated that any introduction of cattle to the experiment would be accompanied by careful quarantine and testing. He stated that he had discussed concerns of the cattalo transmitting disease to the Wainwright buffalo with the veterinary director general and the pathologist of the Department of Agriculture and both assured him that the risk was practically negligible.[488]

---

[485] NAC, RG 84, Vol. 52, BU233, pt. 1, Maxwell Graham to J. B. Harkin, 27 June 1916.

[486] UAA, 2002-18-4, J. H. Grisdale to J. B. Harkin, 5 July 1916.

[487] UAA, 2002-18-4, J. H. Grisdale to J. B. Harkin, 5 July 1916.

[488] UAA, 2002-18-4, J. H. Grisdale to J. B. Harkin, 5 July 1916 and J. B. Harkin to Maxwell Graham, 7 July 1916.

Graham's request to find an alternative location for the experiment was not heeded. It seems that since the herd had already been purchased, plans were already set in motion. The precautions recommended by Hewitt to protect against the introduction of disease were implemented when the cattalo enclosure was built. For example, a double fence was installed around the entire enclosure with a width of 200 feet between the fences.[489] However, all the attention paid to ensure that the buffalo herd were protected from the cattalo was negated by the fact that the herd was prematurely moved to Wainwright before the area was ready for them. The animals arrived from Scott, Saskatchewan on the 30 December 1916 and held in the Mott Lake enclosure for a year; not until January 1918, was the fence completed and the cattalo moved to their permanent quarters.[490] The Mott Lake enclosure, in the Visitor's Park, only had one fence separating it from the buffalo herd in the main park, and this proved problematic. On 24 September 1917, riders found the gate to the enclosure had been broken by cattalo and buffalo fighting and two of the nineteen cattalo, one of which was a bull, had escaped into the main park.[491]

The reaction to the escape of these animals into the park best illustrates what concerns took priority at this time. When informed of the event, Harkin was concerned that the cattalo bull might breed with some of the buffalo, especially since the escape occurred during breeding season.[492] This concern was legitimate and proof that the department did have an interest in maintaining the integrity of the plains bison outside the confines of the cattalo experiment. The escaped cattalo, however, may not have posed too much of a threat to the composition of the herd. The presence of domestic blood in the Pablo herd was apparent as early as the time of the purchase. Although George David Coder, a historian of the early buffalo preservation effort, states that Pablo's and Allard's cattalo were kept on Wild Horse Island in the Flathead Lake and not allowed to mix with the pure-bred buffalo, clearly this separation was not as stringent as he suggests.[493] A number of hybrids existed among the Pablo buffalo when the herd was purchased. In 1918, when it was reported that a hybrid cow and her progeny were still roaming in the park, Maxwell Graham responded, "I am surprised to learn that any hybrids are still to be found in our main herd, as very shortly after the creation of this Branch explicit instructions were given to cut all such [animals]....If any hybrids are still to be found in our herd at Buffalo Park, these should be cut out and placed in the new Cattalo enclosure."[494] However, even in 1923 Seymour Hadwen, pathologist, found that several animals exhibited characteristics that were not true to the plains bison.

---

[489] NAC, RG 84, Vol. 52, BU233, pt. 1, J. B. Harkin to E. S. Archibald, 9 June 1919.

[490] NAC, RG 84, Vol. 52, BU233, pt. 1, A. G. Smith to J. B. Harkin, 3 Jan. 1916, A. G. Smith to J. B. Harkin, 22 Feb. 1918 and Maxwell Graham to J. B. Harkin, 1 Mar. 1918.

[491] The cattalo herd only consisted of nineteen animals; one cow died shortly after arriving at the park.

[492] NAC, RG 84, Vol. 52, BU233, pt. 1, J. B. Harkin to A. G. Smith, 5 Nov. 1917.

> The buffalos differ very much in length of hair. Many are well feathered down the legs and others are fairly clean. This applies also to the heads and especially to the foretop....
>
> There are several animals which have yellowish or ambered coloured horns which are not quite the same shape as the typical buffalo. These animals have a quite definite brindling of the hair, especially over the back and shoulders. Darker stripes can be seen running almost circularly around the body and are very much like those one sees in a brindle cow. These animals possibly hark back to some cross with cattle. Another very noticeable difference is in the black line

---

[493] Coder, 39, 40. In 1882, Johnny Grant visited the Pablo-Allard ranch and was taken to look at this herd of buffalo. Grant noted, "[t]hey had then 16 pure bred cows and some mixed Galways. Some were quite tame. It was so strange to see them tame, they use to be so wild. They had other cattle, and were paying $5.00 a head to get a cow broke to milk." Johnny Grant, *Very Close to Trouble: The Johnny Grant Memoir* (Pullman: Washington State University Press, 1996), 202-03.

[494] NAC, RG 84, Vol. 52, BU233, pt. 1, Maxwell Graham to J. B. Harkin, 15 Mar. 1918.

> which runs from the hump to the top of the head; it varies very much in width and darkness. If the herd is to be cut down, it would seem desirable to try and eliminate all these animals which do not appear to be running true to type.[495]

Harkin should have been concerned about the potential the escape of the cattalo posed to the spread of disease. However, this concern was not even mentioned. Perhaps the reason was because the cattalo were considered to be disease-free. Grisdale argued that the cattalo did not have tuberculosis since all the animals had been tested before the herd was moved.[496] However, given that tuberculosis had been discovered in at least one buffalo and suspected in many others it is equally puzzling that there was no concern that the main buffalo herd actually posed a threat to the experiment.

Even when the cattalo herd had been moved to its new enclosure, the trials themselves took precedence over the precautionary measures first adhered to. When the cattalo herd was found not to be breeding, A. G. Smith thought that the reason might be that the animals were too heavy. He suggested that if the cattalo were kept in a smaller enclosure they would lose some weight and the situation might improve. He wrote to Harkin with a proposal suggested by Caretaker James Wilson that an area between the double fence of the cattalo enclosure be fenced off for this purpose.[497] The lack of concern over the potential threat of the spread of disease is apparent in the willingness of those in authority at both the Parks Branch and the Department of Agriculture to bend the very guidelines they had established for protecting the main buffalo herd. Harkin, while restating the importance of the fence in protecting against the transference of disease, initially consented to Smith's request:

---

[495] NAC, RG 84, Vol. 58, BU299-2, pt. 1, Seymour Hadwen to J. B. Harkin, 21 Feb. 1923.

[496] UAA, 2002-18-4, J. H. Grisdale to J. B. Harkin, 5 July 1916.

[497] NAC, RG 84, Vol. 52, BU233, pt. 1, A. G. Smith to E. S. Archibald, 26 May 1919.

> If there is no other way of overcoming the difficulty which ` proposal suggests and you could guarantee that no animal which is in the enclosure now or will be in the future, so long as the land is being utilized in the way suggested, has any communicable disease such as a guarantee from you would be sufficient to satisfy me that the health of the buffalo would not be seriously menaced by such a procedure.[498]

While Harkin was willing to compromise, he certainly showed more concern about the potential transference of disease than E. S. Archibald, director of experimental farms. While Archibald considered that the chances for the spread of disease were negligible, he stated that he could not guarantee that disease would not be spread. With obvious annoyance, he retorted that if Harkin "[could not] see [his] way to run what would seem to be a very remote risk," another arrangement would have to be arranged.[499] In the end, Harkin informed Archibald that he was not willing to run the risk of using the lane-way for a cattalo pen. Yet, it is unclear if Harkin's instructions were heeded; the letter he wrote to Archibald was never sent.[500]

Lack of concern for precautionary measures to protect the buffalo likely also resulted in the infection of the cattalo herd with tuberculosis. While it does not seem that the disease was as rampant in the cattalo herd, tuberculosis was certainly suspected among the cattalo after they moved to the park. In November 1917, local veterinarian S. E. Wiley examined a seven-year-old cattalo bull, Port Royal, which was in poor condition and anemic. Although he was unable to make a definite diagnosis, he suspected tuberculosis since the animal had been gradually deteriorating in health for some time and the other animals were in excellent condition. While he recommended that a tuberculosis test be given, it is unclear if this test was ever performed.[501] By 1924, a cattalo cow was sent with two buffalo to the research station in Lethbridge for experimental purposes because it had reacted to the tuberculosis test and then needed to be disposed of.[502]

---

[498] NAC, RG 84, Vol. 52, BU233, pt. 1, J. B. Harkin to E. S. Archibald, 9 June 1919.

[499] NAC, RG 84, Vol. 52, BU233, pt. 1, E. S. Archibald to J. B. Harkin, 12 June 1919.

[500] The letter was found in 1920 and believed to have been never sent. NAC, RG 84, Vol. 52, BU233, pt. 1, J. B. Harkin to E. S. Archibald, 17 June 1919 and Vol. 52, BU233, pt. 1, note, anonymous, n.d.

By the 1920s, tuberculosis was firmly established in the Wainwright buffalo herd. The willingness of the Parks Branch to breach the principles it had set out for its buffalo preservation effort by allowing the cattalo experiment into Buffalo National Park compromised the buffalo herd and the experiment itself. The department's concern for preservation of the plains bison continued to decline. In 1923, a decision was made to send buffalo from Wainwright to the newly created Wood Buffalo Park to alleviate the overpopulation pressures at the Wainwright park. This controversial decision had far reaching consequences. With this move, the Parks Branch had not only compromised the integrity of the plains bison herd but now threatened to obliterate the wood bison by introducing disease and allowing the two species to interbreed. This controversial decision has had a lasting impact that is still felt in the national parks system today.

In many ways the transfer of the buffalo north paralleled the decision to relocate the cattalo experiment to Wainwright. Both involved the issues of hybridization between two species and the transference of disease. However, the debate surrounding the transfer of plains bison north proceeded quite differently. When the cattalo experiment was moved to Wainwright, there was absolutely no debate over how conducting a crossbreeding experiment in a national park violated wildlife preservation principles; and the debate over the potential threat the experiment posed in terms of spreading disease remained within the government circles. Yet when the proposal to move the buffalo north to Wood Buffalo Park was publicized, opposition arose entirely from the public sphere. Naturalists and zoologists raised issue with the transfer because they believed that the plains bison would both interbreed with the wood bison, obliterating the latter species, and spread tuberculosis to this disease-free herd. Clearly the Parks Branch had learned little in terms of the potential risks from the experience with the cattalo experiment. Literally no caution was taken to ensure that the wood buffalo would be protected from the plains bison.

---

[501] NAC, RG 84, Vol. 52, BU233, pt. 1, S. E. Wiley to A. G. Smith, 3 Nov. 1917 and A. G. Smith to J. B. Harkin, 7 Nov. 1917. The files do not state if a tuberculosis test was given to Port Royal. In August 1919, the bull was found dead by Caretaker James Wilson. Because it died a couple of days prior to being found, and its body had begun to deteriorate with the hot weather, no post-mortem could be performed on the animal. Thus, it is not known if the bull had tuberculosis. NAC, RG 84, Vol. 52, BU233, pt. 1, A. G. Smith to Director of Experimental Farms, 12 Sept. 1919.

[502] NAC, RG 84, Vol. 58, BU299-2, pt. 1, A. G. Smith to A. E. Cameron, 3 Dec. 1924.

The two main issues that emerged from this decision to transfer surplus plains bison to the wood bison range were very much a recurrence of the issues that surrounded the relocation of the cattalo experiment a decade earlier. The transfer of the plains bison north, however, showed that little had changed; the issue of disease was still not treated in a serious manner and interbreeding between the wood and plains bison was not considered a significant problem. This lackadaisical attitude pointed to a deeper crisis. The Wainwright park was facing a very serious overpopulation problem. The Parks Branch had been trying to reduce the buffalo through slaughter, but was losing money through this method. The decision to send the buffalo north was made because it was the most economical and quickest way to relieve the pressure of the overpopulated buffalo herd on the Wainwright range. The threat that the plains buffalo posed to the livelihood of the wood bison was secondary to the problems that Buffalo National Park was facing.

H. E. Sibbald, dominion parks inspector, seems to have been the first to suggest shipping the excess buffalo at Wainwright north to the newly formed Wood Buffalo Park in 1923.[503] Not long after, W. W. Cory, deputy minister of the Department of the Interior, echoed Sibbald's suggestion stating that instead of slaughtering the buffalo it might be a good idea to transfer healthy stock to Wood Buffalo National Park. He called a conference on 30 May 1923 to discuss the proposal. Present at the meeting were O. S. Finnie, director of the North West Territories, J. B. Harkin, commissioner of national parks, Dr. Frederick Torrance, veterinary director general for the Department of Agriculture, and Superintendent A. G. Smith.[504] Cory also acted as commissioner of the North West Territories. Although the tubercular state of the herd was given some attention at the meeting, it was clear that it was not considered too serious. Cory asked Torrance for his opinion on whether the Wainwright buffalo could recover from tuberculosis if transplanted to the Fort Smith area, and whether this move would jeopardize the wood bison. Torrance stated that although some improvement may be noted in advanced cases, the relocation of such a large number of a known diseased herd into an area with a herd that was not infected would be extremely hazardous. The potential danger that the two species would interbreed did not surface at this initial meeting. In the end, it seems that the group opted to transplant the buffalo, but in the manner which posed the least danger to the wood bison. They decided that only young animals should be selected for transport. These animals would be tested for tuberculosis and those passing the test would be shipped north.[505]

---

[503] NAC, RG 84, Vol. 52, File BU232-1, pt. 1, H. E. Sibbald to J. B. Harkin, 17 Jan. 1923.

[504] UAA, 2002-18-1, Summary of correspondence dealing with the transfer of the buffalo from Wainwright to Wood Buffalo Park, 6 May 1933.

Even before the decision had been made to send the plains buffalo north to Wood Buffalo National Park, the Parks Branch was aware that the Wainwright herd was diseased. By the first buffalo slaughter in 1923, it was determined that seventy-five percent, or 195 of 259 buffalo killed, were found to be affected by tuberculosis.[506] All the experts were startled at the extent to which tuberculosis had taken over the herd. Both Seymour Hadwen, pathologist, and A. E. Cameron, animal pathologist for the veterinary director general, stated that the tuberculosis was so widespread that the whole herd should be considered diseased.[507] Hadwen stated, "the disease is firmly established and the animals are resisting it in a manner acquired slowly as a rule and generally means that they have been exposed for a long period of time."[508]

The conditions at Buffalo National Park were certainly conducive to the spread of disease. Tuberculosis likely spread through the herd by all the conventional ways in which tuberculosis was known to spread – by inhalation, through the digestive track by consumption of milk or other contaminated food, during breeding season, and from a mother to her unborn calf.[509] Poor management practices and the overpopulated state of the buffalo herd, however, were probably most to blame for the spread of the disease. In the winter quarters, the feed became contaminated because it continued to be spread in the same area. Hadwen noted in 1923 that the feeding ground was covered in buffalo chips, and suggested a new feed area be obtained. Even if the manure was removed annually, the ground was still contaminated and would continue to contribute to the spread of disease.[510] But overcrowded conditions of the range, as Graham noted, was also one of the main reasons that the disease was so rampant: "[w]hatever danger of an outbreak of contagious disease there might have been in the past, when their number was smaller, is today vastly increased. Such danger becomes increasingly acute during the winter months, as it is then that the animals are confined and restricted."[511] Hadwen stated that the extent of the disease made the need to cut the herd down even greater. Moreover, he recommended that the herd "be kept on the best pastures as good feeding is most essential in all forms of tuberculosis."[512]

---

[505] UAA, 2002-18-1, Summary of correspondence dealing with the transfer of the buffalo from Wainwright to Wood Buffalo Park, 6 May 1933.

[506] NAC, RG 84, Vol. 58, BU299-2, pt. 1, A. G. Smith, Copy of a statement handed in at the close of operations by Dr. I Christian, Veterinary Inspector-in-charge, n. d.

[507] NAC, RG 84, Vol. 58, BU299-2, pt. 1, Seymour Hadwen, to J. B. Harkin, 21 Feb. 1923 and, RG 17, Vol. 3456, 30-9-1(1), Letter from A. E. Cameron, 17 Feb. 1923.

[508] NAC, RG 84, Vol. 58, BU299-2, pt. 1, Seymour Hadwen, to J. B. Harkin, 21 Feb. 1923. Dr. Frederick Torrance concurred with Hadwen's diagnosis that the disease had been among the herd for some time. F. Torrance to J. B. Harkin, 27 Mar. 1923.

[509] UAA, 2002-18-4, Memorandum from Maxwell Graham, 19 Mar. 1919.

One reason that the issue of disease was not addressed was that the infestation of the plains bison with tuberculosis was a taboo issue. The delicacy with which the issue of disease was treated was made clear by the fact that Harkin did not wish to publicize the tuberculosis found in the herd. In April, Dr. E. A. Watson, chief pathologist, asked for permission to publish the finding of tuberculosis among the Wainwright herd arguing it would be "misleading to publish our general findings as to pathological and parasitological conditions in our buffalo without mentioning the most extensive and important of them all, namely, tuberculosis. New observations on the epidemiology of tuberculosis must always be of value in the study of this problem and should be made available to all concerned in it."[513] However, even with the suggestion that the findings should be published in a foreign journal that would not receive attention from the general public, Harkin made it clear that he did not want the presence of disease made known.[514] Consequently, an article by A. E. Cameron entitled "Notes on Buffalo: Anatomy, Pathological Conditions, and Parasites" gave a detailed analysis of all the other ailments of the Wainwright buffalo, but gave no indication of the extent that tuberculosis was ravaging the herd.[515] The Parks Branch continued to be pressured to reveal that the buffalo herd was diseased. The veterinary director general, of the Health of Animals Branch, while respecting the request of the Parks Branch not to publish the tuberculosis in the herd, felt that the existence of the disease should be admitted because it was common knowledge. However, even when the Parks Branch did begin to admit that the herd was diseased, as was apparent in a letter to the Saskatchewan Tuberculosis League, Harkin played down the extent to which the herd was diseased and argued that the tuberculosis was decreasing and it was expected that it would gradually be eliminated.[516]

---

[510] NAC, RG 84, Vol. 58, BU299-2, pt. 1, F. Torrance to J. B. Harkin, 27 Mar. 1923 and RG 17, Vol. 3456, 30-9-1(1), Letter from A. E. Cameron, 17 Feb. 1923.

[511] UAA, 2002-18-4, Maxwell Graham to J. B. Harkin, 7 July 1916.

[512] NAC, RG 84, Vol. 58, BU299-2, pt. 1, Seymour Hadwen, to J. B. Harkin, 21 Feb. 1923.

---

[513] NAC, RG 84, Vol. 58, BU299-2, pt. 1, E. A. Watson, Chief Pathologist, to Dr. Geo Hilton, Veterinary Director General, 4 Apr. 1924.

[514] NAC, RG 84, Vol. 58, BU299-2, pt. 1, E. A. Watson, Chief Pathologist, to Dr. Geo Hilton, Veterinary Director General, 4 Apr. 1924 and J. B. Harkin to J. H. Grisdale, 6 May 1924.

[515] Tuberculosis in the buffalo herd went unmentioned except for one passing reference that alluded to the possible connection of the disease with lung worms. Cameron stated, "The lesions associated with these worms were emphysema and hard areas which suggested tuberculosis when felt from the outside. The numbers found in a single buffalo were comparatively few, about a dozen." NAC, RG 84, Vol. 58, BU299-2, pt. 1, A. E. Cameron, "Notes on Buffalo: Anatomy, Pathological Conditions, and Parasites," Reprinted from the *Veterinary Journal* 79 (10).

[516] NAC, RG 84, Vol. 58, BU299-2, pt. 1, Acting Veterinary General to J. B. Harkin, 25 Apr. 1928 and NAC, RG 84, Vol. 58, BU299-2, pt. 1, J. B. Harkin to R. G. Ferguson, 4 Sept. 1928.

Another reason why the issue of disease was treated in such a passive manner was that the tubercular state of the buffalo herd was not considered too serious. Part of the reason for this lack of concern was the way in which evidence of tuberculosis was interpreted following the 1923 slaughter. Harkin had informed Cory that although the high percentage of animals afflicted with tuberculosis was initially alarming, post-mortems had proved that many of these tubercular scars in the lungs were no longer active.[517] "I am pleased to report [that the disease] is not as serious as at first thought." In fact, Harkin seemed to take the healed tubercular scars as evidence that if the poor range, resulting from the dry years, the overcrowded conditions, and winter feeding methods, were improved, the disease could revert back to an inactive state.[518] Cory's hope that the Wainwright herd could be transplanted to an area where it would be free from the danger of communicable disease, suggests that he, like Harkin, believed that the buffalo could be healed of their infirmities.[519]

The gravity of tuberculosis was also downplayed because the herd never did exhibit acute signs of the disease. Even in 1936 and 1937, when the herd had been diseased for sometime and tuberculosis was on the increase, H. W. Cowan stated that the animals looked in good condition and he saw no evidence of clinical disease.[520] As well, data from the slaughter of 1927 also suggested that the health of the herd was improving. That year, the incidence of disease had decreased dramatically from indications in previous kills, and all the calves were found to be free from disease.[521] These statistics showing remarkable improvement must have affirmed the Park Branch's decision to transfer the buffalo north. Dr. Fred Torrance, veterinary director general, was one individual who did express some reservation over the decision to ship the buffalo. On the same day of the meeting called by W. W. Cory, Torrance, perhaps not happy with the final decision agreed upon at the conference, wrote a letter to the Parks Branch and reiterated his opinion on moving the buffalo north: "[t]his proposition is objectionable from a health point of view, in that it would be almost certain to carry infection to this herd of wood buffalo, which presumably is at present free from this disease."[522] However, even with this objection, Torrance left the door open for the Parks Branch by suggesting that, "[i]f this proposition were, however, modified and preparation made so that young animals up to the age of yearlings only were transferred, and that these animals were previous to transference submitted to the tuberculin test, so as to eliminate any that reacted, much of the objection would be removed."[523] He offered that his branch, the Department of Agriculture, would make arrangements for the planning of the necessary enclosures and squeezes and the delivery of the tests.[524]

---

[517] NAC, RG 84, Vol. 58, BU299-2, pt. 1, J. B. Harkin to W. W. Cory, 23 May 1923.

[518] NAC, RG 84, Vol. 58, BU299-2, pt. 1, J. B. Harkin to W. W. Cory, 23 May 1923.

[519] UAA, 2002-18-1, Summary of correspondence dealing with the transfer of the buffalo from Wainwright to Wood Buffalo Park, 6 May 1933.

[520] NAC, RG 84, Vol. 52, BU233, pt. 2, H. W. Cowan, Report of Inspector, 23 July 1936 and H. W. Cowan, Report of Inspector, 21 Mar. 1937.

Maxwell Graham's endorsement of the decision to move the bison north to Wood Buffalo Park is surprising given that he knew that the Wainwright herd had tuberculosis, and that he had been dead set against relocating the cattalo experiment to Wainwright because of the threat it posed in terms of spreading disease. He was not in attendance at the conference and he was no longer with the Parks Branch when the transfer decision was made.[525] In 1922, he took on a new role as chief of the Wild Life Division. Nonetheless, in the December 1924 issue of the *Canadian Field-Naturalist*, Graham supported the proposal of Wood Buffalo Park as the new outlet for the surplus plains bison. He stated that it was hoped one to two thousand would be shipped from Wainwright annually. Graham, having knowledge of the health status of the Wainwright herd, made no mention of tuberculosis at all in his article.[526] This silence is most puzzling given that he knew the dangers that the disease posed; in a 1919 memorandum, he outlined the symptoms and spread of the disease and issued a stern warning that buffalo exhibiting such symptoms or reacting to a tuberculin test should be slaughtered.[527]

---

[521] NAC, RG 84, Vol. 58, BU299-2, pt. 1, R. Waddy to A. G. Smith, 20 Dec. 1927.

[522] NAC, RG 84, Vol. 58, BU299-2, pt. 1, Fred Torrance to W. W. Cory, 30 May 1923.

[523] NAC, RG 84, Vol. 58, BU299-2, pt. 1, Fred Torrance to W. W. Cory, 30 May 1923.

[524] NAC, RG 84, Vol. 58, BU299-2, pt. 1, Fred Torrance to W. W. Cory, 30 May 1923.

Historian John Sandlos is amazed at how Graham was able to "dismiss the opinions of leading zoologists, misrepresent the views of his colleagues and ignore expert advice he had received from within the civil service."[528] Sandlos cites an internal 1923 memorandum which shows that Graham acknowledged that the risk of infecting the wood bison with tuberculosis was great. To O. S. Finnie he wrote, "[I]t would seem therefore in Doctor Torrance's opinion we must face a certain risk of infection from the introduction of even young, tested, buffalo coming from the infected herd at

---

[525] William A. Fuller, "Canada and the "Buffalo", *Bison bison*: A Tale of Two Herds," *The Canadian Field-Naturalist* 116 (January-March 2002), 152.

[526] Maxwell Graham, "Finding Range for Canada's Buffalo," *The Canadian Field Naturalist* 38 (December 1924), 189.

[527] UAA, 2002-18-4, Memorandum from Maxwell Graham, 19 Mar. 1919.

[528] John Sandlos, "Where the Scientists Roam: Ecology, Management and Bison in Northern Canada," *Journal of Canadian Studies* 37 (Summer 2002), 99.

Wainwright….Since Dr. Torrance has given his opinion it is hardly proper for me to say more on the matter of possible infection."[529] Perhaps the very fact that Graham did not mention tuberculosis in his article is proof that he had some issue with the danger the transfer posed in this regard. However, given that he was no longer with the Parks Branch perhaps he believed his opinion would have little influence.

While Graham may have had issue with the transfer of a diseased plains bison herd, he showed no serious objection with plains and wood buffalo interbreeding. In fact, he did not consider the two types of bison to be separate species. Rather, he believed the wood bison to be a more pure and superior version of its plains counterpart. He argued that the wood bison were the last wild bison in North America and "the finest specimens of their species, superior in pelage, size, and vigour to those of the plains."[530] Any difference between the plains bison and wood bison Graham attributed to the environment they were living in.[531] He believed that the pure wood bison serve a very useful purpose for the parks system: "[t]he time is approaching" he stated, "when an infusion of new unrelated blood will be needed by our herds in the National park, and it is only from the northern herds that such infusion can be obtained."[532]

---

[529] Quoted in Sandlos, 100.

[530] Maxwell Graham, *Canada's Wild Buffalo: Observations in the Wood Buffalo Park, 1922* (Ottawa: King's Printer, 1923), 12.

[531] Maxwell Graham, *Canada's Wild Buffalo*, 8. This belief was commonly held by those in the parks system. It was argued that environmental conditions were responsible for the plains bison at Elk Island National Park being darker and sturdier buffalo than those in Wainwright. UAA, 2002-18-1, Summary of correspondence dealing with the transfer of the buffalo from Wainwright to Wood Buffalo Park, 6 May 1933. It was believed that once introduced into the environment of the wood buffalo, the plains bison would begin to take on some of the characteristics of the wood bison. Such was substantiated by J. D. Soper, a naturalist/explorer who would later be appointed dominion wildlife officer for the Prairies. J. Alexander Burnett, "A Passion for Wildlife: A History of the Canadian Wildlife Service, 1947-1997," *The Canadian Field-Naturalist*, 113 (January to March 1999), 13. He reported that the environmental conditions were already affecting the plains bison that had been transferred to Wood Buffalo National Park. He stated, "The "Wainwrights" are becoming increasingly sturdier, heavier, and [get] darker pelts as the years go by." UAA, 2002-18-1, Summary of correspondence dealing with the transfer of the buffalo from Wainwright to Wood Buffalo Park, 6 May 1933.

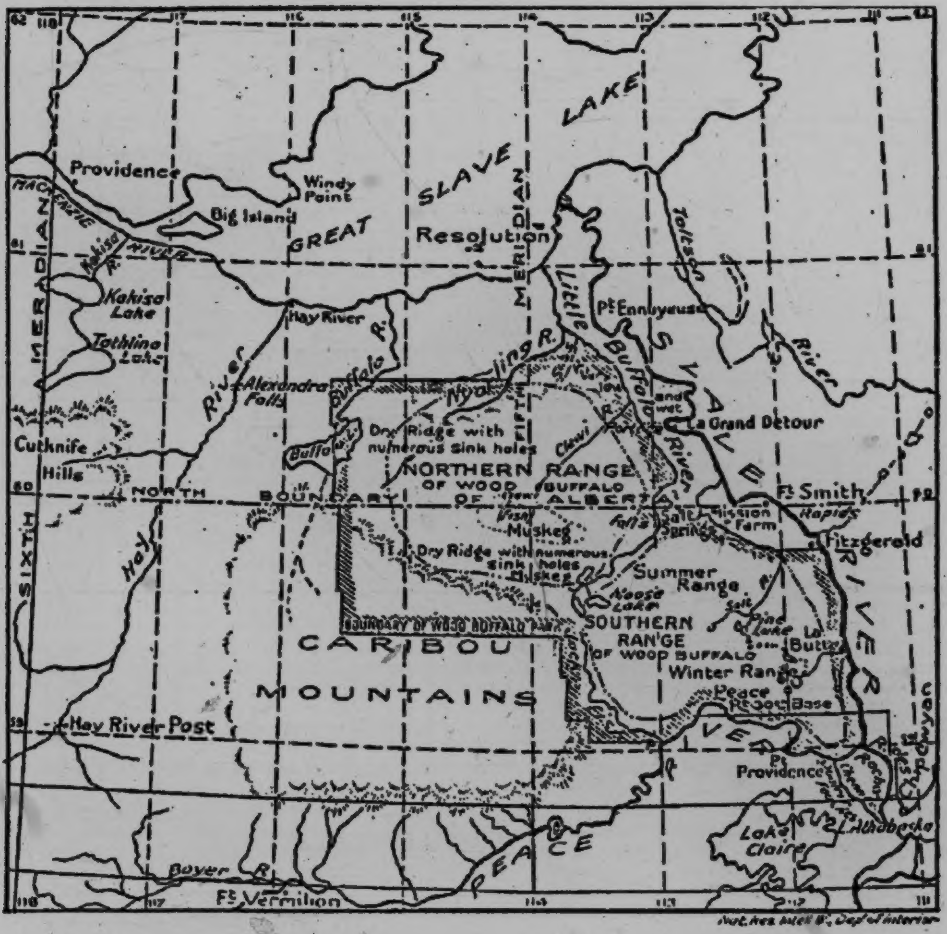
Providence
Windy Point
Big Island
GREAT SLAVE LAKE
Resolution
MACKENZIE RIVER
Kakisa R.
Kakisa Lake
Tathlina Lake
SIXTH MERIDIAN
FIFTH MERIDIAN
Hay River
Buffalo R.
Alexandra Falls
Little Buffalo R.
Taltson River
Pt. Ennuyeuse
SLAVE RIVER
Grand Detour
Dry Ridge with numerous sink holes
NORTHERN RANGE OF WOOD BUFFALO
Cuthnife Hills
NORTH BOUNDARY OF ALBERTA
Ft. Smith
Rapids
Fitzgerald
Salt Springs
Mission Farm
Muskeg
Dry Ridge with numerous sink holes
Summer Range
Moose Lake
SOUTHERN RANGE OF WOOD BUFFALO
Winter Range
Pine Lake
La Butte
BOUNDARY OF WOOD BUFFALO PARK
CARIBOU MOUNTAINS
Peace Pt.
Base
Hay River Post
Hay R.
Pt. Providence
Lake Claire
Athabaska
PEACE
Boyer R.
Ft. Vermilion
Nat. Res. Intel. Br., Dep't of Interior

Figure 10: Map Showing Ranges for Northern and Southern Wood Bison Herds. Source: Maxwell Graham, "Finding Range for Canada's Buffalo," *The Canadian Field Naturalist* 38 (December 1924).

Given his belief that the wood bison were a purer version of the plains bison and needed to be safeguarded for future use in the national parks system, it is curious that Graham supported a proposal to move a diseased, and what he considered an inferior, herd into the habitat of the wood bison. However, it seems that Graham did not believe that moving the plains bison north would endanger or obliterate the entire wood bison population. There were two ranges for these northern bison, containing two separate herds which supposedly did not mingle with each other (See Figure 10). Graham argued, "[s]ince it is into the southern range only that it is proposed to introduce the plains bison from the Wainwright park, in which range some 1000 wood-bison are at present established, those bison indigenous to the northern range…will remain inviolate so far as admixture with the introduced bison is concerned."[533]

---

[532] Maxwell Graham, *Canada's Wild Buffalo*, 12.

Not everyone accepted Graham's argument. Francis Harper, of Cornell University and formerly of the Bureau of Biological Survey, Washington D. C., using Harry V. Radford's findings, argued that the two types of bison had distinct characteristics.[534] He stated, "[i]nterbreeding will undoubtedly take place, and with the introduced plains buffalo vastly in the majority, the descendants a few generations hence

---

[533] Maxwell Graham, "Finding Range for Canada's Buffalo," 189. It is quite possible that Graham relied on information from a report by F. B. Siebert. During the 1922 boundary survey "on his reconnaissance of the home of the Wood Buffalo," Siebert stated that while it was possible for buffalo from northern and southern herds to mingle, the two herds did not seem to unite. UAA, 2002-18-1, summary of the correspondence on file giving reasons for introducing the Wainwright herd to Wood Buffalo Park and the representations made by those who were opposed to such action, 1926.

[534] In 1910, Harry V. Radford collected information on the wood bison and its habitat. He also procured a specimen and compared this animal with its Plain's counterpart. In comparison to the measurement of a plains bison that had been killed by William Hornaday, which held the world record for bison in size and weight, the wood bison was remarkably bigger in proportion and declared by Radford to be the largest wild animal to be killed in North or South America, NAC, RG 84, Vol. 58, BU299-2, pt. 1, H. V. Radford to Colonel Fred White, 12 Feb. 1910.

	Hornday's plains bison killed Dec. 6, 1896.	**Radford's wood bison killed Dec. 1, 1909.**
Total Weight	2,100 lbs (estimated)	2,402 lbs
Height at Shoulder	5 ft. 8in	5ft. 10in
Length of head and body to root of tail	10 ft. 2in	9ft. 7in
Length of tail vertebrae	1 ft. 3in	1ft. 7½ in.
Girth behind forelegs	8 ft. 4 in	9 ft. 9in.
Circumference of muzzle behind nostrils	2 ft. 2 in	2 ft. 3 5/8 in

will naturally have more of the characteristics of the latter than the Wood Buffalo."[535] He argued that there was no evidence that the northern and southern herds would not mix, because there was no physical barrier preventing contact between the two herds. Thus, there was a potential for disease to spread.[536] Others, like the American Society of Mammalogists, expressed their disapproval of the transfer in subsequent issues of *The Canadian Field-Naturalist*. Naturalist W. E. Saunders from London, Ontario, argued that there were "many examples the world over, of calamitous results arising from the interference of man with native fauna….it would be better to lose the whole Wainwright herd, rather than risk the last remnant of the Wood Buffalo."[537]

William Hornaday, vice-president of the American Bison Society and president of the New York Zoological Park, also raised objections to the move when he learned the Wainwright herd was diseased. He was greatly shocked to hear that the buffalo had tuberculosis. In a letter to Francis Harper he stated, "[i]f it is as bad as your informant states, – which I certainly hope it is not, – then the conditions are indeed terrible. I had not before heard even a whisper to the effect that tuberculosis had found lodgement in the great Canadian herd."[538] He considered the proposal to move bison north a fatal mistake, but stated that there was really nothing anyone outside Canada could do without it being seen as interference.[539]

---

[535] Francis Harper, "Correspondence," *The Canadian Field Naturalist* 39 (February1925) 45.

[536] Harper, 45.

[537] W. E. Saunders and A. Brozier Howell, "Correspondence," *The Canadian Field Naturalist* 39 (May 1925) 118.

[538] NAC, RG 84, Vol. 58, BU299-2, pt. 1, W. T. Hornaday to Francis Harper, 17 Mar. 1925.

[539] NAC, RG 84, Vol. 58, BU299-2, pt. 1, W. T. Hornaday to Francis Harper, 17 Mar. 1925.

With the negative publicity from the zoologists and naturalists, some dissent began to emerge inside government circles, as was made apparent in a dispute that involved Hoyes Lloyd and Harrison Lewis, the supervisor of wildlife protection for the Parks Branch and the chief federal migratory bird officer, respectively. Both men were involved with the Ottawa Field Naturalist's Club; Lloyd was president and Lewis was editor of *The Canadian Field-Naturalist*. At the 28 February 1925 club meeting it was decided to send a copy of Harper's letter from the February 1925 issue of *The Canadian Field-Naturalist* to the minister of the interior accompanied by a letter from the club endorsing Harper's position that plains buffalo should not be sent north. The outcome of the incident is proof that the department indeed had knowledge of the potential danger in which it was placing wood buffalo. It also was verifies how volatile the proposal had become and showed that the government was not willing to countenance any public servants breaking rank. Lloyd and Lewis were informed that they could either resign from "the Field Naturalist's Club or be expelled from the Department of the Interior."[540] Both resigned their positions at the club.[541]

The decision to send buffalo north was not changed by the protests; plains bison were shipped north over a four-year period. And, as had been the case with the cattalo experiment, initial regulations set out to protect the wood bison ended up being compromised. For one, a decision was made to dispense with the tuberculin test since only young bison, one- and two-year-olds, were to be shipped. Initially these young bison were delegated to be sent north because it was thought that they posed no risk in terms of spreading disease.[542] This belief was substantiated in the 1923 slaughter when of the nine spring calves killed all were found to be free from the disease and only one of twelve yearlings slaughtered was found to be slightly infected.[543] In his January 1924 report to the veterinary director general, Waddy stated that while the older cows and bulls had "extreme prevailence [*sic*] of generalized tuberculosis," the buffalo under the age of five that had been slaughtered in the past few days had been found to be free from the disease.[544] Thus, none of the animals sent north were tested for tuberculosis.[545]

---

[540] Burnett, 12.

[541] Burnett, 12.

But even the policy of sending young buffalo north was breached. When 2,000 buffalo were rounded up for the transfer in the 1924 season, a number of cows formed a part of this group. O. S. Finnie wired A. G. Smith and stated, "[p]ositively no buffalo over two years can be shipped."[546] However, in the 1926 shipment, the sex ratio of the animals segregated was believed to have too many males. The original ratio agreed upon for that year's shipment was one male to five females among the yearlings. Although no two-year-old males were to be shipped, 450 males and 250 females (two-year-olds) had been segregated. Because Finnie considered this male portion excessive, he decided to override the original decision and allowed three-year-old females to be added in order to supplement the sex ratio.[547]

---

[542] UAA, 2002-18-1, Summary of correspondence dealing with the transfer of the buffalo from Wainwright to Wood Buffalo Park, 6 May 1933.

[543] NAC, RG 84, Vol. 58, BU299-2, pt. 1, A. G. Smith to J. B. Harkin, 17 Dec. 1923.

[544] NAC, RG 84, Vol. 58, BU299-2, pt. 1, Richard Waddy to Veterinary Director General, 7 Jan. 1924.

[545] UAA, 2002-18-1, Summary of correspondence dealing with the transfer of the buffalo from Wainwright to Wood Buffalo Park, 6 May 1933.

[546] Quoted in NAC, RG 84, Vol. 52, BU232-1 pt. 2, A. G. Smith to O. S. Finnie, 7 July 1925.

[547] NAC, RG 84, Vol. 52, BU232-1 pt. 2, O. S. Finnie to F. H. H. Williamson, 3 Mar. 1926.

In 1932, one of the most scathing comments regarding the transfer of the buffalo north was made by Thomas Barbour, director of the Museum of Comparative Zoology at Harvard University. In a review for the magazine *Science* of a book written by Harold Shepstone[548] Barbour stated,

> This, one of the most tragic examples of bureaucratic stupidity in all history, was done against the protests of both Canadian and American naturalists who would rather have seen the surplus bison killed. They were known to be infected with bovine tuberculosis and they are certain to interbreed as well as infect the wood bison, which is a far finer animal and one of great zoological interest .... The book would have done well to have shown up this transfer to the public in its true light as a real tragedy and not as a triumph of conservation.[549]

In response to the review, J. D. Soper, chief federal wildlife officer of the Canadian Wildlife Service for the Prairie Provinces, confirmed that there had been merit in the warnings given by the naturalists and zoologists:

> It is true that the "Wainwrights" were and are still infected with bovine tuberculosis. There can scarcely be any doubt that these animals are interbreeding and infecting the wood bison at the present time; the "Wainwrights" are drifting everywhere and occupying the former range of the "originals". The two races have already intermingled to a great extent and almost without question are transmitting tuberculosis one to the other. There are now reports that the "Wainwrights" have even invaded what we have regarded as the "remote northern area" of the park....[550]

According to park employees at Wood Buffalo National Park, the plains bison herd mingled with the wood bison almost immediately after arriving at the park. William

---

[548] Harold Shepstone devotes one chapter of his book *Wild Beasts Today* to the demise and salvage efforts of the Dominion government. He concludes his chapter with details of the transfer of the plains bison from Wainwright. He portrayed the scheme in a positive light, stating that the herd at Wood Buffalo National Park would soon be used to supply meat and leather products to Canadians. Harold J. Shepstone, *Wild Beasts Today* (London: Sampson Low, Marston & Co., Ltd.), 1931, 126-34.

[549] UAA, 2002-18-1, Summary of correspondence dealing with the transfer of the buffalo from Wainwright to Wood Buffalo Park, 6 May 1933.

[550] UAA, 2002-18-1, Summary of correspondence dealing with the transfer of the buffalo from Wainwright to Wood Buffalo Park, 6 May 1933.

Fuller, a mammalogist employed in Dominion Wildlife Service (later the Canadian Wildlife Service) at that time, reports that by 1950, when a professional butcher and veterinary meat inspector were brought in to inspect the annual slaughters, it was clear that tuberculosis had spread. Fuller gives figures for the tuberculosis found among the herd from 1952 to1956. He stated that three-quarters of adult and old males tested positive for the tuberculosis. On the whole, 38% of males and 40% of females were found to have the disease.[551]

The lack of concern displayed by officials administering the preservation effort at Buffalo National Park had far-reaching consequences. Issues of overpopulation and ensuing problems that the park faced can be assigned to inexperience of those running the effort and the infancy of wildlife science in the early twentieth century. The blatant disregard officials displayed for the protection of the species, however, with the decision to move the cattalo experiment to Wainwright cannot be overlooked. The cattalo experiment, designed to make the bison herd at Wainwright useful, only served to exacerbate the tuberculosis problem in Buffalo National Park. Furthermore, the experiment was, in principle, a manipulation of wildlife, and it set a bad precedent. Even if the Parks Branch had not learned any lessons from its involvement in the cattalo experiment, it had no excuses. Plenty of zoologists and naturalists voiced their objections regarding the transfer of buffalo north, and informed the Parks Branch of its obligation to the preservation of the species. Therefore, the decision to move the buffalo north with the knowledge of their condition was inexcusable and raises the question of the Parks Branch having any preservationist ethic at all.

---

[551] Fuller, 155-56 and Burnett, 15.

The transfer of the Wainwright buffalo north was disastrous. The plains bison interbred and spread disease to the wood buffalo. The ripple effect from the decision to transfer a diseased plains bison herd north is still felt today. Now in Wood Buffalo National Park, history has come full circle and is repeating itself. Park officials have had no success purging the hybrid wood/plains bison from the grip of tuberculosis. Most recently, William Fuller, biologist, has called for a complete slaughter of the herd and the building up of a new herd using the disease-free wood bison from the Mackenzie Bison Sanctuary.[552] He notes that in 1990, the Report of the Environmental Panel on Northern Diseased Bison called for a complete slaughter of all the bison in Wood Buffalo National Park because of their diseased status. The government has yet to comply with this proposal.[553]

The tuberculosis that was ravaging the Buffalo National Park herd was perhaps the biggest reason for the park's closure in 1940. The Parks Branch was never successful in eliminating tuberculosis from the Wainwright herd. In 1939, Dr. Seymour Hadwen, pathologist, stated that there was no way to eliminate disease without eradicating the whole herd. He said, "I made a strong plea for this in 1923 and I feel the same now."[554] The Parks Branch began to question the need to maintain the diseased herd of plains bison at Wainwright when there was a healthy herd in Elk Island National Park. Thus, when the Department of National Defence became interested in using Buffalo National Park as a military training area during the Second World War, the Parks Branch saw this opportunity as fortuitous and a chance to wash its hands of the failed preservation effort.

---

[552] While it was believed that the transfer of the plains bison herd had wiped out the wood bison species, a miraculous discovery was made in 1958. Dr. N. S. Novakowski stumbled across what he believed to be a pure wood bison herd in a secluded corner along the northern border of Wood Buffalo National Park. It was decided to split this herd and eighteen were moved to Ft. Providence north of the Mackenzie River and the remaining animals were sent to Elk Island National Park. Fuller states that while the validity of the claims that the animals were pure wood bison has been debated since, he believes that these buffalo are "the closest we will ever see to the original wood bison." Fuller, 157.

[553] Fuller, 158.

---

[554] NAC, RG 84, Vol. 982, File BU2[548608], pt. 3, Seymour Hadwen to F. H. H. Williamson, 7 Dec. 1939.

Chapter 7: Conclusion

On the eve of the park's closure in 1939, the *Ottawa Evening Journal* reported:

> The range at Wainwright Park, it is explained by those who should know, has deteriorated greatly in recent years. The soil is light, and through over-grazing the natural pasturage has been replaced to a considerable extent by non-edible plants, and the natural feed of the herds had to be supplemented. Thus the enterprise ceased to be a conservation project under natural conditions but an exhibition herd partly maintained out of public funds."[555]

Although the journalist suggested that the effort at one time occurred under natural conditions, evidence shows that from the onset there was nothing natural about the Buffalo National Park effort to conserve the bison. One of the few conservationist principles followed by the park was to grow the herd as rapidly as possible, and this directive had disastrous consequences. In fact, the effort to protect the plains bison cannot be considered conservationist at all. Rather than ensure the permanence of the plains bison, management decisions made throughout the park's existenence threatened the very future of the species.

The decision to close Buffalo National Park in 1939 seems in hindsight to be one of the wisest decisions park officials made in the name of conservation. The effort was driven by motives that were not preservationist from the establishment of the park, which sealed the fate of the preservation effort before it had a chance to begin. Lack of attention to preservationist considerations at the park's inception contributed to the rise in managerial problems that park officials were unable to combat. The increasing number of animals in the park and the deterioration of the range exhausted the natural forage that the buffalo required. The increasing prevalence of tuberculosis in the buffalo herd and other animals left administrators little choice but to take drastic measures. Pathologist Seymour Hadwen stated that the only way to eradicate disease and prevent its spreading from the Wainwright park was for all the animals to be slaughtered.[556]

---

[555] NAC, RG 84, Vol. 50, File BU2, pt. 1, "The Wainwright Buffalo" *Ottawa Evening Journal*, 5 Dec. 1939.

It is clear, however, that the diseased state of the animals was not the only factor in the decision to close the park. The poor financial state of the park was also a major factor. The park never recovered from the expense of feeding an overpopulated buffalo herd in the 1920s. The annual cost of maintaining the park, $45,000 to $50,000, could not be recouped from incoming revenues. By the time of the park's closure, the total revenue obtained by the park had not come close to covering the expenditures that the effort had incurred.[557] For these reasons the government was more than willing to close the park when the Department of National Defence's (DND) expressed an interest in the area for use during the Second World War. As early as 1937, the DND had shown interest in obtaining the park for a military training area. Its interest was based on the fact that Buffalo National Park was a large expanse of land which it believed to be perfect for use for troop training manoeuvres and firing artillery.[558]

In 1939, the park area was transferred to the DND under the provisions of the War Measures Act. Those working at the local park had no advance notice of the park's closure and were caught by surprise. Superintendent A. G. Smith did not receive word until 18 October 1939 that all the animals were to be slaughtered.[559] The last roundup of the buffalo, an event that has become legendary in the local history of the area, took place in 1939. The buffalo slaughter was tendered to Canada Packers. Initially, consideration was given to distributing the other animals to interested parties, but it was decided because of the incidence of tuberculosis not to release these animals. Instead, moose, elk and deer were disposed of in early 1940 and used for native relief purposes. Only yak that had passed the tuberculin test were donated to zoological gardens throughout Canada and the United States. Those animals that did not pass the test were destroyed.[560]

---

[556] NAC, RG 84, Vol. 982, File BU2[548608], pt. 4, Re: Buffalo National Park, n.d.

[557] NAC, RG 84, Vol. 982, File BU2[548608], pt. 4, Reference to Buffalo Park in Hansard and summary of discussions at Session 1940, 6 August 1940 and Vol. 982, File BU2[548608] pt. 3, F. H. H. Williamson to E. C. Bannerman, 15 Feb. 1940.

[558] NAC, RG 84, Vol. 982, File BU2[548608], pt. 4, Re: Buffalo National Park, n.d. and Reference to Buffalo Park in Hansard and summary of discussions at Session 1940, 6 August 1940.

The interest in the area by the DND was seen as fortuitous. The Parks Branch knew that the effort had been a failure in terms of conservation. Various individuals and groups, most importantly naturalist and zoologists, had expressed criticism over the years concerning management policies implemented at the park; the takeover by the DND was seen as an opportunity to maintain credibility by ending the effort without admitting publicly that the effort had failed. As one official remarked, the "outstanding feature of the whole matter from our standpoint is that the present is the first opportunity to wind up affairs at Wainwright without admitting publicly that the herd was in bad condition."[561]

When the park's closure was made public, the park administration kept two of the main reasons for closing the park – the diseased state of the herd and interest in the area by the DND – confidential and disclosed these reasons to very few people.[562] To the public, the Parks Branch limited its explanation for the park's closure to the financial difficulties the park was facing. Citizens were informed that the decision was made with a sense of duty to the interest of taxpayers, as the maintenance of the buffalo herd had not been offset by the incoming revenue, but rather the effort had been sustained at considerable expense of public funds.[563] Replies to protesters stated, "[n]o admission fee is charged at Buffalo Park, Wainwright, and yet the record of attendance does not show widespread interest, consequently it would be difficult to maintain that the park is a valuable factor from a tourist standpoint."[564]

---

[559] NAC, RG 84, Vol. 982, File BU299-2, pt. 15, F. H. H. Williamson to A. G. Smith, 18 Oct. 1939.

[560] NAC, RG 84, Vol. 982, File BU2[548608], pt. 4, Re: Buffalo National Park, n.d. and Notes For BU. 2, Reference to Buffalo Park in Hansard and summary of discussions at Session 1940, "Inquiry as to Destruction of Buffalo, Elk, Moose and Deer," 24 June 1940, Vol. 982, File BU299-2, pt. 15, Agreement between His Majesty, King George the Sixth and Messrs. The Canada Packers, Ltd., 9 Nov. 1939 and Slaughter of Moose, Elk, Deer and Yak, Buffalo National Park, 1939-1940 and W. F. Lothian, *A History of Canada's National Parks*, Volume IV (Ottawa: Parks Canada, 1981), 37.

[561] NAC, RG 84, Vol. 982, File BU2 [548608], pt. 2, The Director of the Department of Mines and Resources to the Deputy Minister, 28 Sept. 1939.

Not all were fooled by this explanation. The Canadian National Parks Association suspected that disease and the military's interest in the area had played a part in the park's closure, and published its suspicions in its newsletter.[565] The Parks Branch was criticized for not disclosing the true reasons for the park's closure. The Ecological Society of America stated "[t]he destruction of Buffalo Park is, so far as the public's information is concerned, in direct contradiction of most of the principles which they have been told underlie the establishment of parks....the fact remains that most conservationists have been stunned by the announcement about Buffalo Park and I am afraid it will do a great deal of harm to the national park idea in Canada."[566]

---

[562] It appears that this confidential information was only disclosed to inquiring government officials. For example, NAC, RG 84, Vol. 982, File BU2[548698], pt. 2, W. J. F. Pratt to W. P Harrell, 14 Nov. 1939, and others throughout this file.

[563] NAC, RG 84, Vol. 982, File BU2[548608], pt. 3, J. Dewey Soper to A. H. Howell, 4 Jan. 1940.

[564] NAC, RG 84, Vol. 982, File BU2[548608], pt. 4, for example, F. H. H. Williamson to William Flemming, 29 Aug. 1940.

[565] For example, NAC, RG 84, Vol. 982, File BU2[548608], pt. 3, "Progress Report," *Canadian National Parks Association* 104 (1939).

There were reasons that the Parks Branch wished to keep the real motivation for closing the park under wraps. The department did not want to disclose the incidence of disease in the herd because it feared that public criticism would follow if the media caught wind of the fact that meat from diseased animals was to be distributed for native relief, even though first inspected by a qualified government inspector.[567] Furthermore, the Parks Branch feared that if this information was broadcast by the media it "might be relayed to Germany where it would be distorted for propaganda purposes."[568]

When the DND takeover was made public, the Parks Branch softened the blow by informing concerned citizens and organizations that the park was being turned over to the DND only for the duration of the war. The public was assured that no national park [could] be abolished without legislation through an act of parliament and the area would remain a "game and bird Sanctuary while under the jurisdiction of the Department of National Defence."[569] Initially there did seem to be some thought given to reinstating the area as a national park following the war. The area was only on loan to the DND for the duration of the war and the Parks Branch asked the former to maintain buildings and fences so that when the area reverted back to the Parks Branch "existing improvements would not have deteriorated beyond repair and re-use, should it be decided to continue the area as an animal park."[570] The main reason the Parks Branch was interested in keeping the Wainwright area as a park and building up a disease-free herd was that officials had learned that the existence of two herds of buffalo, one in Wainwright and one in Elk Island National Park, acted as a safeguard in case one herd contracted disease.[571] Financial considerations, however, decided the issue. It was felt that the expense of maintaining Buffalo National Park could not be justified when, it was thought, the preservation of the bison had been "amply accomplished" with healthy buffalo in Elk Island National Park as well as buffalo in Riding Mountain and Wood Buffalo National Parks.[572] Moreover, Elk Island National Park was believed to be a better location for a buffalo herd from a tourist standpoint because it was closer to Edmonton.[573]

---

[566] NAC, RG 84, Vol. 982, File BU2[548608], pt. 3, J. R. Dymond to H. H. Williamson, 23 Nov. 1939.

[567] NAC, RG 84, Vol. 982, File BU2[548608], pt. 3, R. A. Gibson to A. E. Archer, 27 Nov. 1939.

[568] NAC, RG 84, Vol. 982, File BU2 [548608], pt. 3, W. J. F. Pratt to R. A. Bell, 30 Nov. 1939.

[569] NAC, RG 84, Vol. 982, File BU2[548608], pt. 4, Deputy Minister to George Monkman, 14 Jan. 1941; F. H. H. Williamson to William Flemming, 29 Aug. 1940; and A. G. Smith to Gentlemen in the Department of Mines and Resources, 17 Sept. 1940.

The park was not used as a training area during the war. Instead, it was used as a Prisoner of War camp which housed German officers.[574] Following the war, however, the DND expressed its desire to retain the area permanently for use as a military training area for active and reserve forces because the park was "one of the few areas in Canada which [was] government owned and which [lent] itself to training of all Arms."[575] Because the area was to revert to the province if not under the jurisdiction of the national parks system, an arrangement was made between the federal and provincial governments to relinquish Buffalo National Park for use by the DND in exchange for twenty-four sections of land in the Cooking Lake Forest Reserve to be added to Elk Island National Park to expand the buffalo effort in that park.[576] Buffalo National Park was officially abolished by an act of Parliament in 1947.[577] The cattalo experiment, which had been allowed to continue when the area transferred to the DND, was moved in 1950 to the Dominion Range Experiment in Manyberries, Alberta.[578] Today, the area south of Wainwright is still under the jurisdiction of the DND; the Land Force Western Area Training Centre is one of the most strategic bases in Canada.

---

[570] NAC, RG 84, Vol. 982, File BU2[548608], pt. 4, R. A. Gibson to Colonel H. DesRosiers, 29 Oct. 1941.

[571] NAC, RG 84, Vol. 54, File BU232, pt. 5, Memorandum to Mr. Lloyd, 15 Sept. 1939.

[572] NAC, RG 84, Vol. 982, File BU2[548608], pt. 4, "Reference to Buffalo Park in Hansard and summary of discussions at Session 1940," 29 Aug. 1940.

[573] NAC, RG 84, Vol. 982, File BU2[548608], pt. 3, Slaughter of Buffalo, Wainwright, n.d.

[574] NAC, RG 84, Vol. 982, File BU2[548608], pt. 4, Letter from the Deputy Minister of the Department of National Defence, 3 June 1941.

[575] NAC, RG 84, Vol. 982, File BU2[548608], pt. 4, Re: Buffalo National Park, n.d.

This study of Buffalo National Park reveals that this park was unique in the early twentieth-century national parks system. In a period when wildlife saving efforts, in and outside the national parks system, were based on utilitarian conservationist motives, the purchase of the Pablo plains bison herd appears, at first glance, to have been a genesis of a new wildlife preservation policy. The effort that unfolded at Buffalo National Park was seen as a departure from wildlife conservation efforts in other early national parks because the purchase of the plains bison was not driven by motives of profit and use. This view has been accepted by historians who have labelled the effort as preservationist. On closer investigation, however, one sees that Buffalo National Park should not be considered unique in implementing any new form of preservation based on ecological integrity. Rather, the buffalo salvage effort at Buffalo National Park was unique because it is difficult to detect any preservationist ethic at all.

---

[576] NAC, RG 84, Vol. 982, File BU2[548608], pt. 4, Re: Buffalo National Park, n.d, Letter to Mr. Gibson, 16 Jan. 1947, Letter to N. E. Tanner, 15 Feb. 1947, and W. J. F. Pratt to J. P. Tripp, 6 Apr. 1947.

[577] The National Parks Amendment Act, 1947, 11 George VI, c. 66. *Acts of the Parliament of the Dominion of Canada Passed in the Session Held in the Eleventh Year of the Reign of His Majesty King George VI Being the Third Session of the Twentieth Parliament* (Ottawa: Printed by Edmon Cloutier, 1947), 371.

[578] NAC, RG 17, Vol. 3456, File 30-9-1(1), F. K. Kristjansson, Division of Animal Husbandry, An Evaluation of the Potentialities of the "Cattalo" Project with Special Reference to Reproductive Problems, 19 Feb. 1952.

The biggest question, then, becomes how to define the effort at Buffalo National Park. It is easier to define the effort by what it was not. The effort was not conservationist. Indeed, there were noticeable conservationist undertones in the establishment of the park and the management of bison. The choice of the land south of Wainwright made useful an area otherwise worthless in terms of development. The purchase of the Pablo buffalo herd, the largest and last free-ranging herd on the continent, played to popular public nostalgia by reinvigorating the symbolic status of the buffalo in the Canadian West, and also served to boost Canadian nationalism. It becomes clear that cultural considerations overshadowed the priority that the government and the Parks Branch should have placed on considering the future of the species. It was these misguided intentions at the purchase that overshadowed any preservationist principles and compromised the effort even before it began.

As well, the policies implemented to manage the plains bison and other animals cannot be considered conservationist. While they do exhibit the elements of utility and efficiency, concepts which Samuel Hays and Robert Craig Brown maintain were foundational for the conservation of resources in the late nineteenth and early twentieth centuries, it is clear that the policies implemented by the Parks Branch paid no attention to ensuring that the buffalo, as a resource, would be safeguarded for use in the future. Instead, these policies were implemented as stop-gap measures to deal with the mounting problems that the park was facing. The choice of methods used to combat the three crises the park faced cannot be considered conservationist or preservationist in nature. Although slaughtering the surplus buffalo helped alleviate the pressure on the range and ease the financial strain on the park, the focus on ensuring that the meat was marketable left no room for consideration of the future of the plains bison species.

As Alan MacEachern suggests is the case in national parks, management decisions made at Buffalo National Park were imprinted with the culture of the early twentieth century. The management of the park was not driven by a preservation ethic, or even any consistent principle, but rather was based on short-range crisis management. In some cases, the Parks Branch was willing to allow the public to have some input in shaping wildlife policies, such as allowing sportsmen to have a say in the management of game animals, but in other cases the Parks Branch ignored public opinion because financial exigencies were more pressing. In the case of the cattalo experiment, the focus on creating a new breed of range cattle led park officials to overlook dangers to the bison effort. Furthermore, the purpose of this experiment, which involved the manipulation of the plains bison, stood in stark contrast to the effort to preserve the species. The Parks Branch would have argued that all of these decisions were conservationist, but none of them considered the future integrity of the plains bison herd.

The effort was also not preservationist. The decision to move the plains buffalo north to the habitat of the wood bison is perhaps the most poignant example of the complete lack of preservationist ethic at Buffalo National Park and within the Parks Branch. With full knowledge of the diseased state of the Wainwright bison herd, and despite protests from zoologists and naturalists over the threat of interbreeding, the Parks Branch went ahead with the move to alleviate the pressure of overpopulation.

Just as the wildlife programs at Buffalo National Park were not unique neither were the problems it experienced common to other national parks. Elk Island National Park also experienced issues with overpopulation and implemented a slaughter to reduce the animal populations in that park. Many of the problems that beset the early twentieth-century wildlife policies of these parks stemmed from a very limited knowledge of wildlife science, which was in its infancy at this time. Evidence emerging from this study of the Wainwright park confirms historian Graham MacDonald's argument that little was known of wildlife management when the parks were established, and it was not until after 1945 that new wildlife management schemes really began to be applied.[579] In this sense, Buffalo National Park was a product of the time and culture in which it emerged.

When the checkered history of Buffalo National Park is examined in its entirety, one sees that it is curious that historians have defined this effort as preservationist and indicative of a new direction in Canadian wildlife policy. This judgement can only be sustained if one's gaze is limited to the purchase of the Pablo buffalo and the establishment of the park, and overlooks the huge mistakes and decisions that placed not only the plains bison, but also the wood bison, in jeopardy. Neither conservationist nor preservationist, Buffalo National Park and its history are not only important for understanding the effort to save the plains bison at the local park level, but have large implications for comprehending how the concept of wildlife preservation was understood at the national level during this early period. Officials in the Parks Branch in Ottawa who were administrating the management of the buffalo and other animals in the Wainwright park were simultaneously implementing wildlife policies in the other national parks as well. This fact alone calls for a reassessment of how wildlife salvage efforts have been evaluated thus far. This is not to disregard those individuals within the system who displayed a preservationist ethic or called for conservationist initiatives. Nor is it to undermine the efforts of those who were employed in the park at the local park level. These local employees embraced this buffalo salvage effort with pride and sincerity; meanwhile, the drafting of wildlife policies was out of their hands. The history of Buffalo National Park, however, calls into question any characterization of the Parks Branch as preservationist in the period prior to the Second World War. Even when the Parks Branch realized that its attempt to save the plains bison had gone terribly wrong, the decision to close the park was motivated more by a desire to preserve the reputation and credibility of the national parks system than to preserve the buffalo.

---

[579] MacDonald, 31, 40.

Bibliography

Archival Primary Sources

Glenbow Archives
    Ribstone Creek Sheet. Map. G3471, G4, s380, 266.
    Photograph Collection

Herb Dixon Photograph Collection
    Private Collection

National Archives of Canada
    Parks Canada Files. Buffalo National Park. RG 84, Vols. 50-57, 155, 981-982.
    Department of Agriculture Files. Cattalo. RG 17, Vols. 1249 and 3456.

Provincial Archives of Alberta
    Dominion Land Surveyor Records. File 83.376.

University of Alberta Archives
    Buffalo National Park Files. 2002-18.

William C. Wonders Map Collection, University of Alberta
    Buffalo Park. Map. Canada. G-9 Buffalo Park (1926).

Published Primary Sources

Benham, D. J. "The Round Up of the Second Herd of Pablo's Buffalo." *Edmonton Bulletin*, 8 Nov. 1907, 9-11.

Boyd, Mossom M. "Crossing Bison and Cattle." *The Journal of Heredity* 5 (1914): 189-197.

Buffalo Trails and Tales. N.p.: Giltedge Ladies Booster Club, 1973.

Butler, William Francis. *The Great Lone Land: A Narrative of Travel and Adventure in the North-West of America*. Edmonton: M. G. Hurtig Ltd., 1968.

Canada: Its History, Production and Natural Resources. Ottawa: Department of Agriculture, 1886.

Canada: Its History, Production and Natural Resources. Ottawa: Department of Agriculture, 1904.

Canada: Its History, Production and Natural Resources. Ottawa: Department of Agriculture, 1906.

Cotton, Bud. "Range Riding with Canada's Buffalo Herds." Unpublished Manuscript, Personal Collection of Adeline Schleppe, n.d.

Cotton, E. J. (Bud). *Buffalo Bud: Adventures of a Cowboy.* Vancouver: Hancock House Publishers Ltd., 1981.

Deakin, ~~A.,~~ G. W. Muir, and A. G. Smith, *Hybridization of Domestic Cattle, Bison and Yak.* Canada: Department of Agriculture, 1935.

Dixon, Herb. Personal Interview. 12 February 2004.

Elrod, Morton. "The Flathead Buffalo Range." In *Annual Report of the American Bison Society, 1905 – 1907*, 15-49. N.p.: American Bison Society, 1908.

Goodnight's American Buffalo Ranch, Goodnight Texas. Dallas: H. A. Fleming & Co., 1910.

Goodnight, Charles. "My Experience With Bison Hybrids." *The Journal of Heredity* 5 (1914): 197-199.

Graham, Maxwell. *Canada's Wild Buffalo: Observations in the Wood Buffalo Park, 1922.* Ottawa: King's Printer, 1923.

Graham, Maxwell. "Finding Range for Canada's Buffalo." *The Canadian Field Naturalist*, 38 (December 1924): 189.

Grant, Johnny. *Very Close to Trouble: The Johnny Grant Memoir.* Pullman: Washington State University Press, 1996.

Grinnell, George Bird. "The Last of the Buffalo." *Scribner's Magazine* 12 (September 1892): 267-286.

Harper, Francis. "Correspondence." *The Canadian Field Naturalist* 39 (February 1925): 45.

Hendry, Anthony. *The Journal of Anthony Hendry, 1754-55: York Factory to the Blackfeet Country.* Edited by Lawrence J. Burpee. Toronto: Canadiana House, 1973.

Hewitt, C. Gordon. *The Conservation of the Wild Life of Canada.* New York: Charles Scribner's Sons, 1921.

Hind, Henry Youle. *British North America Reports of Progress Together with a Preliminary and General Report on the Assiniboine and Saskatchewan Exploring Expedition.* London: George Edward Eyre and William Spottiswoode, 1860.

Hind, Henry Youle. *Narrative of the Canadian Red River Exploring Expedition of 1857 and the Assiniboine and Saskatchewan Exploring Expeditions of 1858*, 2 vols. London: Printed by Spottiswoode and Co., 1860.

Howell, A. Brozier. "Correspondence." *The Canadian Field Naturalist* 39 (May 1925): 118.

Jones, C. J. "My Buffalo Experiments." *The Independent* 60 (1906): 1351-1355.

Jones, C. J. "Breeding Cattalo." *American Breeder's Association Annual Report* 3 (1907): 161-165.

Journals, Detailed Reports, and Observations Relative to the Exploration by Captain Palliser, of that Portion of British North America, which, in Latitude Lies Between the British Boundary Line and the Height of Land of Watershed of the Northern or Frozen Ocean Respectively, and in Longitude, Between the Western Shore of Lake Superior and the Pacific Ocean During the Years 1857, 1858, 1859, and 1860. London: George Edward Eyre and William Spottiswoode, 1863.

Kelsey, Henry. *The Kelsey Papers.* Regina: Canadian Plains Research Center, 1994.

Longstaff, Alan N. "Evolving the Arctic Cow." *MacLean's Magazine*, 15 Jan. 1927.

The National Parks Act, 20-21 George V. c. 33. *Acts of the Parliament of the Dominion of Canada Passed in the Session Held in the Twentieth and Twenty-first Years of the Reign of His Majesty King George V Being the Fourth Session of the Sixteenth Parliament.* Ottawa: Printed by Frederick Albert Acland, 1930.

The National Parks Amendment Act, 1947, 11 George VI, c. 66. *Acts of the Parliament of the Dominion of Canada Passed in the Session Held in the Eleventh Year of the Reign of His Majesty King George VI Being the Third Session of the Twentieth Parliament.* Ottawa: Printed by Edmon Cloutier, 1947.

Nelson, Jorgen. "How Practical Are Cattalo? Buffalo and Domestic Cattle Have Long Been Crossbred." *American Feed and Grain Dealer* 30 (September 1946): 8-9, 27, 42.

North West of Canada: A General Sketch of the Extent, Woods and Forests, Mineral Resources and Climatology of the Four Provisional Districts of Assiniboia, Saskatchewan, Alberta and Athabasca. Ottawa: Department of Agriculture, 1887.

Palliser, John, *The Papers of the Palliser Expedition, 1857-1860.* Edited by Irene M. Spry. Toronto: The Champlain Society, 1968.

Palliser, John, James Hector, and J. W. Sullivan. Progress of the British North American Exploring Expedition." *Journal of the Royal Geographical Society of London* 30 (1860): 267-314.

Peters, H. F. *Range Experimental Farm, Manyberries, Alberta, Progress Report, 1948-1953.* Ottawa: Experimental Farms Service, Department of Agriculture, 1955.

Rocky Mountains Park Act, 50-51 Victoria, c. 32. *Acts of the Parliament of the Dominion of Canada, Passed in the Sessions Held in the Fiftieth and Fifty-first Years of the Reign of Her Majesty, Queen Victoria, Being the First Session of the Sixth Parliament.* Ottawa: Printed by Brown Chamberlin, 1887.

Reindeer & Musk-Ox: Report of the Royal Commission upon the Possibilities of the Reindeer & Musk-Ox Industries in the Arctic and Sub-Arctic Regions. Ottawa: Department of the Interior, 1922.

Rothwell, G. B. *Report of the Dominion Animal Husbandman for the Year Ending March 31, 1924.* Ottawa: Department of Agriculture, 1925.

Saunders W. E. "Correspondence." *The Canadian Field Naturalist* 39 (May 1925): 118.

Schleppe, Adeline. Personal Interview. 11 November 2002.

Shepstone, Harold J. *Wild Beasts Today.* London: Sampson Low, Marston & Co. Ltd., 1931.

Sifton, Clifford. *Review of Work of the Commission of Conservation.* Montreal: The Federated Press Ltd., 1917.

Thompson, Ernest E. "A List of the Mammals of Manitoba." *Transactions of the Manitoba Scientific and Historical Society* 23 (May 1886).

Transactions of the Ethnological Society of London, Volume I. London: John Murray, Albemarle Street, 1861.

Treffry, Ellis. Personal Interview. 11 November 2002.

Whealdon, Bon I. and others. I Will Be Meat for My Salish: The Montana Writers Project and the Buffalo of the Flathead Indian Reservation. Pablo: Salish Kootenai College, 2001.

Williams, M. B. *Guardians of the Wild.* London: Thomas Nelson and Sons Ltd., 1936.

Secondary Sources

Altmeyer, George. "Three Ideas of Nature in Canada, 1893-1914." In *Consuming Canada: Readings in Environmental History*, edited by Chad Gaffield and Pam Gaffield, 96-118. Toronto: Copp Clark, 1995.

Arthur, George W. *An Introduction to the Ecology of the Early Historic Communal Bison Hunting Among the Northern Plains Indians*. Ottawa: National Museums of Canada, 1975.

Bamforth, Douglas B. *Ecology and Human Organization of the Great Plains*. New York: Plenum Press, 1988.

Bella, Leslie. *Parks for Profit*. Montreal: Harvest House Ltd., 1987.

Binnema, Theodore. *Common and Contested Ground: A Human and Environmental History of the Northwestern Plains*. Norman: University of Oklahoma Press, 2001.

Brink, Jack. *Dog Days in Southern Alberta*. Edmonton: Alberta Culture Historical Resources Division, 1986.

Brown, Robert Craig. "The Doctrine of Usefulness: Natural Resource and National Park Policy in Canada, 1887-1914." *Canadian Parks in Perspective*, edited by J. G. Nelson, 46-62. Montreal: Harvest House Ltd, 1968.

Burnett, J. Alexander. "A Passion for Wildlife: A History of the Canadian Wildlife Service, 1947-1997." *The Canadian Field-Naturalist* 113 (January - March 1999): 1-214.

Burns, Robert J. *Guardians of the Wild: A History of the Warden Service of Canada's National Parks*. Calgary: The University of Calgary Press, 2000.

Coder, George David. *The National Movement to Preserve the American Buffalo in the United States and Canada Between 1880 and 1920*. Ohio: Ohio State University, 1975.

Colpitts, George. "Conservation, Science, and Canada's Fur Farming Industry, 1913-1945." *Social History* 30 (May 1997): 77-107.

Colpitts, George. *Game in the Garden: A Human History of Wildlife in Western Canada to 1940*. Vancouver: University of British Columbia Press, 2002.

Cronon, William. *Changes in the Land: Indians, Colonists, and the Ecology of New England*. New York: Hill and Wang, 1983.

"Domesticate." *Oxford English Dictionary Online*. n.d. <http://dictionary.oed.com> (14 June 2004).

Dunlap, Thomas R. *Saving America's Wildlife*. Princeton: Princeton University Press, 1988.

Dunlap, Thomas. "Ecology, Nature, and Canadian National Park Policy: Wolves, Elk, and Bison as a Case Study." In *To See Ourselves/To Save Ourselves: Ecology and Culture in Canada*, edited by Rouland Lorimer et al., 139-147. Montreal: Association for Canadian Studies, 1991.

"Flathead Reservation Timeline." n.d. <http://www.edheritage.org/flathead/timelineflathead.htm> (14 June 2004).

Foster, Janet. *Working for Wildlife: The Beginning of Preservation in Canada*, 2nd ed. Toronto: University of Toronto Press, 1998.

Foster, John E. "Introduction." In *Buffalo*, edited by John Foster, Dick Harrison and I. S. MacLaren, vii-xi. Edmonton, University of Alberta Press, 1992.

Francis, R. Douglas. "Changing Images of the West." In *The Prairie West: Historical Readings*, edited by R. Douglas Francis and Howard Palmer, 629-649. Edmonton: Pica Pica Press, 1985.

Fuller, William A. "Canada and the "Buffalo", *Bison bison*: A Tale of Two Herds." *The Canadian Field-Naturalist* 116 (January-March 2002): 141-159.

Gillis, Peter and Thomas R. Roach. "The Beginnings of a Movement: The Montreal Congress and its Aftermath, 1880-1896." In *Consuming Canada: Readings in Environmental History*, edited by Chad Gaffield and Pam Gaffield, 131-151. Toronto: Copp Clark, 1995.

Gregory, Derek. *Geographical Imaginations*. Cambridge: Blackwell, 1994.

Hays, Samuel P. *Conservation and the Gospel of Efficiency*. Cambridge: Harvard University Press, 1959.

Isenberg, Andrew. "The Returns of the Bison: Nostalgia, Profit, and Preservation." *Environmental History* 2 (April 1997): 179-196.

Kaye, B. and D. W. Moodie. "Geographical Perspectives on the Canadian Plains." In *A Region of the Mind*, edited by Richard Allen, 17-46. Regina: Canadian Plains Research Centre, 1973.

Locke, Harvey and Dave Poulton. "Campaigns." *CPAWS Calgary*. n.d. <www.cpawscalgary.org/national-parks/protect-parks.html> (20 January 2003).

Lothian, W. F. *A History of Canada's National Parks*, Volume II. Ottawa: Parks Canada, 1977.

Lott, Dale F. *American Bison: A Natural History*. Berkeley: University of California Press, 2002.

Loo, Tina. "Making a Modern Wilderness: Conserving Wildlife in Twentieth-Century Canada." *Canadian Historical Review* 82 (March 2001): 92-121.

MacDonald, Graham. *Science and History at Elk Island: Conservation Work in a Canadian National Park: 1914-1994*. Calgary: Historical Services Parks Canada, 1994.

MacEachern, Alan. *The Conservation Movement*. Chinook Multimedia Inc., 2001.

MacEachern, Alan. *Natural Selections: National Parks in Atlantic Canada, 1935-1970*. Montreal: McGill-Queens University Press, 2001.

MacLaren, I. S. "Buffalo in Word and Image: From European Origins to the Art of Clarence Tillenius." In *Buffalo*, edited by John Foster, Dick Harrison and I. S. MacLaren, 79-129. Edmonton, University of Alberta Press, 1992.

McNamee, Kevin. "From Wild Places to Endangered Spaces: A History of Canada's National Parks," In *Parks and Protected Area in Canada: Planning and Management*, edited by Philip Dearden and Rick Rollins, 17-44. Toronto: Oxford University Press, 1993.

Martin, Paul S. and Szuter, Christine R. "War Zones and Game Sinks in Lewis and Clark's West." *Conservation Biology* 13 (February 1999): 36-45.

Marty, Sid. *A Grand and Fabulous Notion: The First Century of Canada's Parks*. Toronto: NC Press Ltd., 1984.

Morton, W. L. *Henry Youle Hind, 1823-1908*. Toronto: University of Toronto Press, 1980.

Nash, Roderick, ed. *The American Environment: Readings in the History of Conservation*. Massachusetts: Addison-Wesley Publishing Company, 1968.

Ogilvie, Sheilagh C. *The Park Buffalo*. Calgary: National and Provincial Parks Association of Canada, 1979.

Owram, Doug. *The Canadian Expansionist Movement and the Idea of the West, 1856-1900*. Toronto: University of Toronto Press, 1980.

Potyondi, Barry. *Wood Buffalo National Park: An Historical Overview and Source Study*. Parks Canada: 1979.

Potyondi, Barry and Loveridge, D. M. *From Wood Mountain to the Whitemud: A Historical Survey of the Grasslands National Park Area*. Ottawa: Parks Canada and Environment Canada, 1983.

Reiger, John F. *American Sportsmen and the Origins of Conservation*. New York: Winchester Press, 1975.

Runte, Alfred. *National Parks: The American Experience*. Lincoln: University of Nebraska Press, 1979.

Russo, John P. *The Kaibab North Deer Herd: Its History, Problems and Management*. Phoenix: Federal Aid in Wildlife Restoration Act, 1964.

Sandlos, John. "Where the Scientists Roam: Ecology, Management and Bison in Northern Canada." *Journal of Canadian Studies* 37 (Summer 2002): 93-130.

Schama, Simon. *Landscape and Memory*. New York: Alfred A Knopf, Inc., 1995.

Scribner, Marsha. *Transitions Commemorating Camp Wainwright's 50th Anniversary*. N.p.: Jostens, 1990.

Spry, Irene. "The Great Transformation: The Disappearance of the Commons in Western Canada." In *Man and Nature on the Prairies*, edited by Richard Allen, 21-45. Regina: Canadian Plains Research Center, 1976.

Trefethen, James B. *An American Crusade of Wildlife*. New York: Winchester Press, 1975.

Vickers, J. Roderick. *Alberta Plains Prehistory: A Review*. Edmonton: Alberta Culture Historical Resources Division, 1986.

Warkentin, John, ed. *The Western Interior of Canada: A Record of Geographical Discovery 1612 to 1917*. Toronto: McClelland and Stewart Limited, 1964.

Warkentin, John. "Steppe, Desert and Empire." In *Prairie Perspectives* 2, edited by A. W. Rasporich and H. C. Klassen, 102-136. Toronto: Holt, Rinehart, and Winston, 1973.

Whealdon, Bon I. and others. I Will Be Meat for My Salish: The Montana Writers Project and the Buffalo of the Flathead Indian Reservation. Pablo: Salish Kootenai College, 2001.

Wilson, Michael Clayton. "Bison in Alberta: Paleontology, Evolution, and Relationships with Humans." In *Buffalo*, edited by John Foster, Dick Harrison, and I. S. MacLaren, 1-17. Edmonton: University of Alberta Press, 1992.

Wonders, Karen. "A Sportsman's Eden. Part II: A Wilderness Besieged." *Beaver* 79 (December 1999 - January 2000): 30-37.

Wyatt, F. A. and Newton, J. D. et. al. *Soil Survey of Wainwright and Vermilion Sheets.* Edmonton: University of Alberta, 1944.

Worster, Donald. "Doing Environmental History." In *Consuming Canada: Readings in Environmental History,* edited by Chad Gaffield and Pam Gaffield, 16-32. Toronto: Copp Clark, 1995.

Appendices